

tomentosis, femoribus antennarumque scapo subtiliter granulatis.

Long. 11 lin.

One example.

Fam. CASSIDIDÆ.

ASPIDOMORPHA. sp.

One specimen.

Fam. COCCINELLIDÆ.

EPILACHNA, sp.

Two specimens.

EXPLANATION OF THE PLATES.

PLATE XXIV.

- Fig. 1. *Batocera nebulosa*, p. 158.
 2. *Pseudozæna alternata*, p. 152.
 3. *Pachyrhynchus biplagiatus*, p. 154.
 4. *Dipelicus nasutus*, p. 153.
 5. *Oryctoderus coronatus*, p. 153.

PLATE XXV.

- Fig. 1. *Batocera browni*, p. 157.
 2. *Eupholus browni*, p. 155.
 3. *Pachyrhynchus verrucatus*, p. 154.
 4. *Eczemotes guttulata*, p. 158.
 5. *Ectocenus ruficauda*, p. 156.

March 6, 1877.

Dr. E. Hamilton, V.P., in the Chair.

The Secretary read the following report on the additions to the Society's Menagerie during the month of February, 1877.

The total number of registered additions to the Society's Menagerie during the month of February was 57, of which 30 were acquired by presentation, 18 by purchase, 2 were bred in the Gardens, and 7 were received on deposit. The total number of departures during the same period, by death and removals was 66.

The most noticeable additions during the month of February were as follows :—

1. A Mexican Eared Owl (*Asio mexicanus*¹), purchased of a

¹ In his new Catalogue of Owls (Cat. Birds, ii. p. 231) Mr. Sharpe has transferred the term *americanus*, which Mr. Salvin and I, following Burmeister, have used for the present species, to the American form of *Asio otus*, usually called *wilsonianus*, and has, moreover, given "Stephens" as the authority for the name. But the name *americanus* was made by Gmelin (1766), not by Stephens, and was founded on Brisson's *Asio americanus*, which, so far as I can decide, is much more likely to have been intended for the present bird than for *A. wilsonianus*. Whether "*Strix mexicana*, Gm.," founded ultimately on the

dealer in Liverpool, Feb. 14th, and said to have been received from Para, being the first example of this very well-marked species of *Asio* (sive *Otus*) which I have seen alive.

2. A *Rhea*, purchased at Liverpool, Feb. 14th, along with the above-mentioned Owl and other animals. This bird appears to belong to the species which, in 1860, I distinguished as *Rhea macrorhyncha* (Trans. Zool. Soc. iv. p. 356, pl. xlix.), from an example then living in the Society's Gardens, which had been originally obtained at the same port.

There can be no question, I think, that we have here to deal with a locally isolated race of *Rhea americana*, probably existing somewhere in the campos of the interior of N.E. Brazil, whence individuals are generally brought down to Para.

The present specimen is in very poor condition, but, so far as a cursory examination of it in its present state can decide, presents all the characters assigned to *R. macrorhyncha* in my description and figure.

[P.S.—Since I read this report, Mr. Salvin has called my attention to the following passage in Stedman's 'Narrative of an Expedition to Surinam' (London, 1806), which seems to indicate the existence of a *Rhea* in that country :—

"The largest bird in Guiana is there called *tuyew*, and by others *emu*. It is a middle species between the Ostrich and the Cassowary (as I was told ; for I never saw one in the country). It is said to be about six feet high from the top of the head to the ground : its head is small, its bill flat, the neck and limbs long, the body round, without a tail, and of a whitish-grey colour ; its thighs are remarkably thick and strong ; and it has three toes on each foot, while the Ostrich has but two. This bird, it is said, cannot fly at all, but runs very swiftly, and, like the Ostrich, assists its motion with its wings. It is mostly found near the upper parts of the rivers Marawina and Seramica."]

Mr. E. W. H. Holdsworth, F.Z.S., exhibited a specimen of *Geocichla layardi*, Walden, which had been obtained in 1876, at Jaffna, in the north of Ceylon. It differed from the type specimen described by Lord Walden in 1870, the only previous example recorded, in having the orange parts less bright, and the back and wing strongly tinged with olive. As the latter character is distinctive of the female in some other species of this group of Thrushes, there was every reason to believe that both sexes were represented in the only two examples known of this peculiar Ceylonese species.

The following papers were read :—

"Tecolotl" of Fernandez, can be fairly construed as applicable to this Owl, is very doubtful indeed ; but as to continue to use the term *americanus* would lead to great ambiguity, it is better, perhaps, to adopt Gmelin's name *mexicanus* for the present species.—P. L. S.

1. Notes on *Ornithorhynchus paradoxus*. By GEORGE FREDERIC BENNETT, in a Letter from Dr. GEORGE BENNETT, F.L.S., F.Z.S., to Professor OWEN, C.B., F.R.S., &c., with Remarks by the latter.

[Received February 12, 1877.]

At the conclusion of a paper "On the Ova of the *Ornithorhynchus paradoxus*," in the 'Philosophical Transactions' for 1834, I noted "the principal points in the generative economy of this animal which remained for determination" (p. 565). These points were again urged on the attention of observant naturalists in Australia, in the paper "On the Marsupial Pouches, Mammary Glands, and Fœtus of the *Echidna hystrix*," in the 'Philosophical Transactions' for 1865, p. 682.

The letter of December 21st, 1876, with which I have been favoured by my esteemed friend Dr. George Bennett, and which I have now the pleasure to communicate to the Society, affords good ground to hope that, through the continuance of the researches of his son (results of which are appended to the letter), some at least of these points will shortly be determined.

"Sydney, Dec. 21, 1876.

"MY DEAR OWEN,—I have received from my son, Mr. G. F. Bennett, at Toowoomba, Queensland, the following notes he has made on the *Ornithorhynchus*. They give the results of his first attempt at exploring the burrows of these singular animals for the purpose of ascertaining their season of copulation and other important points, such as the manner of copulation, the period of gestation, the nature and succession of the temporary structures developed for the support of the fœtus during gestation, the exact size, condition, and powers of the young at the time of their birth, the act of suckling, the period during which the young requires the lacteal nourishment, and the age at which the animal attains its full size. These queries were made by you some years ago; and I have always responded that no reply could be given to them except by exploring the animals' burrows, by aid of the aborigines, at different seasons of the year. This has now been commenced, and, if steadily followed up, will no doubt result in some interesting discoveries as to the generation of the Monotremata.

"I remain, my dear Owen,

"Your sincere old friend,

"GEORGE BENNETT, M.D."

The notes are as follows:—

"Having heard that the *Platypus* was found very plentiful in the Lockyer Creek, which is an eastern water emptying itself into the Bremer river, I started on the 26th of October, 1876, with Mr. A. T. Blakiston, to a selection of his on the Lockyer, near Helidon, to

commence my investigations. After arriving at our destination we went to the creek, and found a very fine water-hole, where, during the winter, *Platypi* are said to be very numerous; so, after going in the water, we discovered many holes in the banks, which we surmised were very probably burrows of the Water-Mole. On the 27th I went down, accompanied by Mr. Blakiston, to the water-hole we had visited on the previous evening, which was bordered by rocks on one side, but on the other by a high sandy bank. I then found a burrow, which I thought would repay the trouble of excavating; so I set steadily to work and gradually opened it up. The burrow was about four by three inches in size, running all the way upwards in a serpentine direction; and when I had got about five feet from the entrance, I came to a chamber on the right-hand side, twelve inches in length by six inches high, and eight inches in diameter. I thought at the time that I had arrived at the end of the burrow; but on probing further on my left, I found that it still ran on; so I continued to dig until I had got about five feet further, when I found another chamber similar in size to the first, my burrow still continuing to the left. I then proceeded with my digging, and did not reach the end until I had gone another ten feet, when to my surprise and delight I found a chamber measuring 18 inches by 10 inches, and 8 inches in diameter, which contained a nest formed of dried grass, reeds, and gum-leaves (*Eucalypti*), evidently, from their blackened appearance, taken from under the water. In the nest were two young *Platypi*, probably about a month old. In the nest they were rolled up in a ball, with the tail lying flat on the beak, or rolled up with the tail covering the head, and the beak resting on the stomach or on the back, and with the right paw resting on the tail coiled up. They were very fat and plump, but without fur, of a greyish colour, and had a velvety appearance when the sun was shining upon them. The young ones measured five inches from the head to the tail. Their eyes were not opened fully, which satisfied me that they had never been out of the nest. I was very much disappointed at not finding the mother with them, as, when putting my hand up the burrow after I had dug fifteen feet, I fancied I heard a kind of growl like that of a Koala; but I must have been mistaken, as I searched the place well on the following day to ascertain if there was any sign of an opening where she could have escaped.

“On the 28th I brought the young ones home with me and left them on their nest in my room, when I observed that their favourite resting-position was lying on their backs, the beak resting on one of the fore feet, and the other stretched out. When handled they gave a shrill kind of hiss or whistle, resembling that of a young duck. I attempted to get them to suck, but without success. I used a feeding-bottle with a glove nipple made very small to suit the aperture of their throat. They were therefore three days without any food, but looked as well and as lively as on the day I took them from the nest; but they soon perished, and I have preserved them in spirits to send to Sydney.

“The sketch (fig. 1, p. 163) will give a very good idea of this burrow

when excavated, showing also that the object of the animal is always to reach as high above flood-level as possible. It is not actually above the winter floods, which in this creek are very heavy, but above the mark of ordinary freshets. The chambers on the right are raised about an inch above the floor-level of the burrow, and, although they bear indications of having been occupied, do not appear ever to have been used as a nest, as no sign of grass of any description was found in them.

Fig. 1.

Sketch of burrow of *Ornithorhynchus*, laid open October 26th.

“I visited the same place at Helidon, accompanied by Mr. Blakiston, on the 19th of November, 1876, and again inspected the burrow in which I had previously found the young *Platypi*, to see if the mother had escaped by means of any side entrance, but found none. I then looked for another burrow, and found one which I considered would repay the trouble of excavating; so I set to work, and after proceeding about 4 feet came upon a small chamber on the left side, which ran out to 4 inches in diameter, the widest side nearest the burrow being 9 inches in width and 6 inches high; and then following

the burrow for another 4 feet, I came to another chamber on the right-hand side, which was 9 inches wide, 15 long, and 5 inches high; the burrow still continued for 2 feet more, when the final chamber was reached. This had an entrance about 10 inches wide; the chamber measured 17 inches long, 10 inches wide, and 6 inches high; but there was no sign of any nest in it, nor any thing to indicate that it had been inhabited for that purpose at any time, although the surface of the top appeared to be smooth and hard, as if the animal

Fig. 2.

Sketch of burrow of *Ornithorhynchus*, laid open November 19th.

had been rubbing upon it. I then found and opened another burrow, which showed indications of being inhabited. The size of the entrance was $2\frac{1}{2}$ to 4 inches, and ran very circuitously. I then excavated this burrow to about 20 feet (having passed a small unfinished chamber on the left about 4 feet from the entrance, which is shown in the sketch, fig. 2; at every foot the burrow was rising up the bank), when I came upon a chamber on the right-hand side measuring 8 inches high, 10 inches wide, and 16 inches long. I then dug on for about 2 feet more, when I came upon another chamber on the right-

hand side measuring at the entrance 10 inches wide, 8 high, and 10 long. I then continued to dig about 6 feet more, when I came upon another chamber with an opening of 10 inches. In this chamber, which measured 18 inches long, 8 inches high, and 12 wide, I found, to my delight, two young ones, their skins of a bluish tint with a glossy appearance, as if a down were coming over them, and measuring $4\frac{1}{2}$ inches from the beak to the tip of the tail. They had not got their eyes opened; but I resolved to try if they could swim at all; so I obtained a tin dish which would hold about a depth of water of 8 inches, and I put one in at a time. They swam on vigorously, but could not keep their heads above the water, although they made great efforts to do so. After they had been about 25 seconds in the water, I took them out and returned them to their nests, perfectly satisfied that up to this time they had never been in the water. The young *Platypi* were taken from the nest about noon on the 19th of November, and had no food given to them until Monday night, about 9 P.M., when they had a little milk sweetened with sugar, and lukewarm. They took about a teaspoonful each. The plan adopted to feed them was to insert one teaspoon into the mouth and gradually pour the milk from another into it. They were fed regularly three times daily, and appeared healthy and lively to the time of their death, which happened about midday on Wednesday the 22nd of November, within an hour of each other. Every care was taken to keep them warm: they were placed in a box in their natural nest with an addition of wool; the light was excluded, leaving a sufficient circulation of air. The day before their death, when the beak was placed in the spoon containing the milk, they appeared to lap it up. They did not waste away, but were quite plump when they died. They were very restless at night, keeping moving about the box; in the day-time they were nearly always asleep. After death they decomposed so rapidly that I was not able to put them in spirits.

“One peculiarity in the burrows laid open was that the side-chambers, with only one exception, were situated on the right-hand side, and slightly higher than the main track of the burrow. The use of these chambers I cannot comprehend; for even when I have found nests, these chambers show no signs of having been used, even at any remote period, as they have nothing left in them, not even a bit of grass. I believe that the reason why I have as yet been unable to capture any of the old animals, in the nest or in the burrows, has been that I have commenced operations too early in the morning, before they have returned from their excursions in search of food; but on this and other subjects connected with the economy of these singular animals I hope next season to effect some more interesting discoveries, as this time I was ignorant and did not know how to commence exactly and had to work without any of the blacks. In the burrow shown in the second sketch (fig. 2), the nest was much deeper under the ground than in the first (fig. 1), being fully 4 feet from the surface of the ground (the other being 2 feet) and through a very hard sandy soil. Having taken the level of the hole from the water-surface, found that it was 22 feet; so that it would be a good flood that

would reach that height: and such floods are not common, as the opposite side of the creek is flat.

“‘The *Echidna*, or Native Porcupine, is very numerous in the Gomarren Scrub, Merugaden, lately a portion of Gowrie run, but now the homes of many free selectors. A friend, Mr. Wilcox, caught four for me, but injudiciously placed them in his garden, from which they soon escaped by burrowing. I regretted this, as it was the supposed season of the year for their breeding. They are often found about the nests of the Brush-Turkeys (*Talegalla*). A lad one day brought me a young one which I considered was about two months old.’”

These notes, besides the interest of the direct observations on the burrows and nests of the *Ornithorhynchus*, and the success of the experiment of feeding the young with lukewarm slightly sweetened milk, for three days, which in some degree supports the conclusions on the function of the abdominal glands of the Monotremes¹, affords a valuable indication of the probable period at which the female *Ornithorhynchus* may be got in the impregnated state. The specimen with uterine ova, described in ‘Phil. Trans.’ 1834, p. 555, was shot by Dr. Bennett, on the 7th October; the first pair of young were discovered by his son on the 28th October; the second pair, discovered on the 19th November, were somewhat smaller. The young *Ornithorhynchi* taken in 1832 by Dr. Bennett, from a nest on the banks of the Murrumbidgee river, which young measured only $1\frac{7}{8}$ inch in length (in a straight line), and were considered by him to have been recently brought forth², were discovered on the 8th December.

From this it may be inferred that the breeding-season of the *Ornithorhynchus* has a certain range in time. They may bring forth in one river a few weeks earlier or later than in another; and there seems to be a difference of a week or two, in this respect, in the same river. But the months of September, October, and November are those in which there seems to be most chance of obtaining a pregnant *Platypus*.

Of the breeding-season of the *Echidna* I have not yet received as satisfactory indications. It would seem to be earlier in the year, as the young in the rudimental pouch, described and figured in the paper above cited³, was stated to have been found, with the mother (which was captured), on the 12th August. The month of July might be the time favourable for obtaining a female *Echidna* in the impregnated state. As the *Echidna* is very numerous in a locality which may be within the range of observation of the author of the preceding ‘Notes,’ I feel sanguine that the means of determining the uterine and foetal membranes and appendages of the Monotremes will be afforded to the anatomist at no great distance of time.

¹ ‘Phil. Trans.’ 1832, p. 517, and ‘Phil. Trans.’ 1865, p. 671.

² ‘Phil. Trans.’ 1834, p. 566.

³ Phil. Trans. 1865, p. 678.

2. Descriptions of three new Snakes of the Family Uropeltidæ from Southern India. By Lieut.-Col. R. H. BEDDOME, F.Z.S.

[Received February 12, 1877.]

PLATYPLECTRURUS MADURENSIS, n. sp.

Snout much rounded and very obtuse; rostral very small, scarcely reaching the surface of the head; nasals very large, vertical, six-sided, not much produced behind; 3rd labial large, but 4th much larger; eye pretty large, surrounded by the 3rd labial, postfrontal, superorbital, and postocular (the latter shield sometimes confluent with the supraorbital); occipitals elongate; mental very small; the 1st pair of chin-shields meet behind it and have a 2nd pair between them and the 1st ventral; an elongated temporal shield is sometimes present between the 4th labial and the occipital; abdominals 149-170; anal bifid; subcaudals 10-15; tail scarcely compressed, scales quite smooth; terminal scale sharp-pointed, and with a sharp ridge on each side; colour above a nacreous purplish-brown; each of the abdominal scutes and the two lower rows of scales on each side, white in the centre, but with a complete ring round the outer margins of the same colour as the back, giving the whole belly a very uniform coloration. 11-14 inches long.

Hab. About Kodiakarnal on the Pulney Mountains (Madura district), 600 feet elevation; very rare.

SILYBURA DINDIGALENSIS, n. sp.

Rostral large, as long as the vertical, acute and with a high ridge, not separating the nasals, which are very large; eye very small, in front of the ocular shield; vertical much pointed behind; scales in 19 rows on the neck and anterior portion of the body, and 17 round the middle, the central row not at all enlarged; caudal disk well defined and flattened, but not nearly so much as in *S. ceylanica*, some of the scales small, with 4 prominent keels, others confluent into elongated scales the whole breadth of the disk, and furnished with 10-17 keels; terminal scale large, slightly bicuspid; abdominals large, 167-169, and bifid; subcaudals 6 pairs. Colour yellow, much blotched with black, each scale being a bright yellow (during life) more or less blotched and spotted with black, the two colours nearly equal, or the yellow rather predominating; belly blackish, with very irregular transverse bars of yellow; a yellow line runs along the labials and a short way along the sides of the trunk; tail yellow beneath. 12-15 inches long by $1\frac{3}{4}$ inch in circumference.

Hab. Heavy forests on the Sirumullay hills, near Dindigul, at 4000-5000 feet elevation.

SILYBURA MACRORHYNCHA, n. sp.

Rostral exceedingly large, nearly $\frac{1}{4}$ inch in length, very acute, and raised in a sharp ridge along its upper surface; nasals large, very

oblique, broad below, very narrow upwards, and just meeting behind the rostral, vertical 3-sided shield-shaped; eyes very small, near the front of the ocular shield; scales in 19 rows round the anterior portion, in 17 round the middle of the body; abdominals 226; anal bifid; subcaudals 6 pairs, length $21\frac{1}{2}$ inches, girth very nearly 2 inches. Colour uniform brown, but somewhat paler below; a marginal yellow band along the side of the trunk for a short distance, commencing at the 4th labial; tail black below, but encircled by a yellow band. Caudal disk rather flat; the scales with 4-5 prominent keels; terminal one very large, bluntly bicuspid.

Hab. Anamullay Mountains, 4000 feet elevation; very rare.

3. Descriptions of new Species of Heterocerous Lepidoptera in the Collection of the British Museum. By ARTHUR G. BUTLER, F.L.S., F.Z.S., &c.

[Received February 16, 1877.]

The following interesting new species are all based on comparatively recent additions to the national collection.

SPHINGIDÆ.

DILUDIA CHROMAPTERIS, n. sp.

Primaries silvery grey, crossed by subangulated lunulated brown lines, very indistinct at the base, most strongly marked upon the costal area; the usual apical patch bordered with dark brown, and from its infero-interior angle to the inner margin a series of five sinuated black lituræ; the usual longitudinal black streaks on the median areoles, but the upper one much elongated and forking (from its outer extremity) into two clavate lines, which almost reach the outer margin; discoidal stigma white, black-edged; secondaries with the basal half bright ochre-yellow, the external half greyish brown; two transverse central bands, the inner one black, the outer one dusky, dentated, bordered externally by pale grey diffused spots; a large spot at anal angle, its inner half black, its outer half white; fringe of all the wings white, spotted with brown; body grey, irrorated with red-brown; the head and collar with a central longitudinal inverted λ -shaped dark-brown marking; tegulæ bordered externally with black, and fringed with white hairs; metathorax with a large central transverse blackish spot; body with a central blackish line, and with lateral increasing longitudinal bands on each segment; antennæ reddish: wings below uniformly whity-brown; the base of primaries yellow to the centre of the discoidal cell; fringe as above; body below white: expanse of wings 3 inches 11 lines.

Hab. Madagascar.

This beautiful species seems to be allied to *Sphinx jasmini* of Boisduval; but the coloration of the secondaries and the uniform character of the under surface at once distinguish it.

PROTOPARCE LINGENS, n. sp.

Primaries above greyish brown, crossed by ill-defined black lunulated interrupted lines, most strongly defined over the central area; an oblique blackish band across the end of the cell, and not extending beyond the median nervure; the usual longitudinal black streaks on the median interspaces; a black-bordered apical patch as in *Diludia*; fringe alternately white and brown, a black-edged white discoidal stigma; secondaries ochreous, sordid towards apex; costal area testaceous; a broad y-shaped central transverse black band; a sub-marginal black band, tapering from the apex to the anal angle; outer border greyish brown; anal margin white; fringe alternately white and brown; body above brown; back of collar black; tegulæ bordered externally with black and fringed with white; two black-bordered yellow spots on metathorax; hind margin of thorax black; abdomen with a central longitudinal interrupted black line from the second to the fifth segment; a central white spot on the basal segment; a lateral series of black-bordered oblique white spots; hind margin of the segments white-edged; antennæ whitish-brown, ferruginous internally; proboscis castaneous: wings below pale brown, the basicostal area of primaries, and the basal half of secondaries sandy brown; body below white, the palpi and front of pectus testaceous: expanse of wings 3 inches 4 lines; length of body 1 inch 7 lines, of proboscis extended 3 inches 5 lines, of antennæ 10 lines.

Hab. Madagascar.

Considering the size of this species, the length of its proboscis and of its antennæ are remarkable. It is most nearly allied to *P. solani*, but is a well-defined and very distinct species.

CHALCOSIIDÆ.

CYCLOSLIA UNIFORMIS, n. sp.

Dull brown, shot with dark dull green, as in *C. panthera*, but with no trace of the conspicuous maculated white border common to that species; expanse of wings 2 inches.

Hab. Sarawak (*Low*).

A very distinct species. It occurs also in Sumatra.

MIMEUPLÆA, n. gen.

Allied to *Cyclosia* and *Pompelon*, general aspect of *Amesia*, coloration of the Rhopaloceros genera *Euplæa* and *Calliplæa*.

This genus differs from both *Cyclosia* and *Pompelon* in the less-rounded form of the primaries, the longer inner margin of these wings, the great length of the median and shortness of the subcostal nervures; the discoidal cell is consequently longer behind than in front, and is deeply and angularly excavated in front; the upper radial is emitted with the third subcostal branch from a short foot-stalk, whereas the lower radial is not emitted from the same point with the third median branch as in *Cyclosia* and *Pompelon*; the abdomen extends also beyond the secondaries. Type

MIMEUPLŒA RHADAMANTHA, n. sp.

Wings above rich chocolate-brown, becoming slightly purplish towards outer margin; primaries with a broad subquadrate white patch over the end of the cell; immediately below the latter and upon the second median interspace a fusiform white streak; three submarginal white dashes towards the external angle; a lilac dot at base; secondaries with the internal half of the basal third occupied by a large white patch; body dark brown; front of head and back of collar dull blue; anal half of abdomen blue-shot: wings below nearly as above; body brown, laterally spotted with white, venter shot with blue; legs brown above, pearly white below; expanse of wings 2 inches, 6 lines.

Hab. Sarawak (*Low*).

Resembles the female of *Calliplocæ rhadamanthus*, which occurs with it in Borneo; I know of no other Moth at all nearly allied to it.

4. Descriptions of a new Species of *Bulimus* from Western Australia, and of a *Paludinella* from Lake Eyre, South Australia. By GEORGE FRENCH ANGAS, F.L.S., C.M.Z.S.

[Received February 19, 1877.]

(Plate XXVI.)

BULIMUS PONSONBYI, n. sp. (Plate XXVI. fig. 1.)

Shell imperforate, elongately ovate, solid, shining, everywhere marked with very fine decussated transverse striæ crossing the lines of growth, rich olive-brown without any markings, paler towards the apex; whorls 5, slightly convex; spire conical, blunt at the apex; aperture pale lilac within, longer than the spire, wider towards the base; outer lip simple; columella arcuate, the margins united by a strong spreading callus.

Long. 2 inches 2 lines, lat. 1 inch.

Hab. Western Australia.

This species appears to have been hitherto overlooked by authors, or confounded in some unaccountable manner with the *Bulimus atomatus* of Gray, from New South Wales, from which it is altogether distinct.

I found three examples in the British Museum labelled *B. atomatus*, var., with a note on the back of the tablet stating that they were obtained by Mr. John Gould in Western Australia in 1839.

Mr. J. H. Ponsonby, having lately shown me a specimen from his collection, drew my attention to the species, which I have much pleasure in naming after him.

PALUDINELLA GILESII, n. sp. (Plate XXVI. fig. 2.)

Shell perforate, globosely turbinate, rather thin, pale orange,





showing here and there narrow, transverse, somewhat diaphanous lines of a dark colour, very finely longitudinally striated with the lines of growth; whorls 5, very convex, the last inflated; sutures impressed; aperture subcircular; outer lip simple, arcuate; margins united by a broad, flattened, whitish callus, which is expanded over the columella and somewhat produced at the base.

Operculum horny, paucispiral, with the nucleus subcentral.

Long. 4, lat. $2\frac{1}{2}$ lin.

Hab. Shores of Lake Eyre, South Australia (*Waterhouse*).

5. Descriptions of one Genus and twenty-five Species of Marine Shells from New South Wales. By GEORGE FRENCH ANGAS, F.L.S., C.M.Z.S., &c.

[Received February 19, 1877.]

(Plate XXVI.)

MUREX BRAZIERI, n. sp. (Plate XXVI. fig. 3.)

Shell elongately ovate, solid, light brown, tinged with brownish purple on the columella and within the aperture, variced with six irregular varices; whorls 5, somewhat excavated and flattened above, the upper ones encircled with two, and the last with five strong erect ribs, some of which are double, crossed longitudinally with squamate ridges throughout, which are nodulous on the ribs, and become more foliaceous towards the base; aperture ovate, outer lip dentate within; canal half the length of the aperture, slightly recurved.

Long. 4, lat. 2 lin.

Hab. Dredged outside Port-Jackson Heads in 20 fathoms (*Brazier*).

This little species is somewhat allied to *Murex mundus* of Reeve.

PERISTERIA BRAZIERI, n. sp. (Plate XXVI. fig. 4.)

Shell fusiform, moderately solid, light yellowish brown, longitudinally ribbed with about eight broad ribs, tumid above, which become obsolete towards the anterior portion of the basal whorl, crossed with numerous fine, impressed, concentric lines, especially on the upper whorls; whorls $6\frac{1}{2}$, slightly flattened below the sutures; sutures irregularly impressed; aperture narrowly ovate; outer lip with a small blunt tooth anteriorly; columella arcuate, with a slight callous projection close to its junction with the outer lip; canal moderate, very slightly exerted and recurved.

Length 1 inch, breadth 5 lines.

Hab. Near Redbank River, New South Wales (*Brazier*).

The tooth-like projection just inside the outer lip, at the upper portion of the canal, is only present in fully adult specimens. The slight fold in the columella, characteristic of *Peristernia*, is either absent or but very faintly developed in the present species.

TRUNCARIA AUSTRALIS. (Plate XXVI. fig. 5.)

Shell elongately fusiform, moderately solid, pale brown, shining; whorls $7\frac{1}{2}$, the two apical ones thin and papillose, the rest somewhat distantly and flatly longitudinally plicate on the upper portion, the plicæ crossed with fine impressed lines, the middle of the last whorl smooth with a few impressed lines near the base; sutures grooved; aperture narrowly ovate, dilated below; outer lip arcuate, slightly thickened within; columella somewhat flattened, covered with a smooth white callus, and abruptly truncate at the base.

Length $3\frac{1}{4}$ lines, breadth 1 line.

Hab. Dredged off "Sow and Pigs," Port Jackson (*Brazier*).

OLIVELLA BRAZIERI, n. sp. (Plate XXVI. fig. 6.)

Shell elongately ovate, smooth, shining, pale flesh-colour, ornamented with several irregular distant chestnut-coloured flames descending from the sutures, and with zigzag lines and markings which become thicker and more distinct towards the centre of the last whorl, forming a sort of zone, below which is a narrow impressed pale band, the markings again appearing in a fainter form towards the base; whorls 6; sutures excavated; aperture longer than the spire; outer lip simple, nearly straight, truncate at the base; columella slightly twisted and plicate below, with a narrow keel extending round the base of the whorl.

Long. 6, lat. $2\frac{1}{3}$ lin.

Hab. Newcastle beach, New South Wales.

COLUMELLA (ANACHIS) SMITHI, n. sp. (Plate XXVI. fig. 7.)

Shell elongately ovate, moderately solid, purplish olive, with a band of white dots just below the suture, and another encircling the middle of the last whorl; whorls 6, strongly and closely longitudinally ribbed, the ribs becoming evanescent towards the base of the lower whorl, which is transversely grooved; aperture narrowly subquadrate; canal short, everted and recurved.

Long. $1\frac{3}{4}$, lat. $\frac{3}{4}$ lin.

Hab. Port Jackson; under stones at low water.

In sculpture this species much resembles *C. atrata*, Gould; but it is less than half the size, and of a purplish-olive colour, with white-dotted bands.

I have named it after Mr. Edgar Smith, who so ably superintends the Conchological Department in the British Museum.

MARGINELLA STRANGEI, n. sp. (Plate XXVI. fig. 8.)

Shell elongately ovate, rather thin, smooth, shining, semitransparent, white, somewhat suffused with pale yellowish brown on the body-whorl, and with an opaque white band below the suture; whorls 4; spire small, obtuse, apex blunt; aperture narrow; outer lip thickened and strongly variced, varices opaque white; columella 4-plaited.

Long. $1\frac{3}{4}$, lat. $1\frac{1}{4}$ lin.

Hab. "Sow and Pigs" reef, Port Jackson (*Brazier*).

MARGINELLA METCALFI, n. sp. (Plate XXVI. fig. 9.)

Shell elongately subtriangularly ovate, rather thin, smooth, polished, creamy white; whorls 4; spire obtusely conical, blunt at the apex; aperture rather narrow; outer lip thickened and slightly varicose; columella 4-plaited, the lowest plait descending.

Long. 2, lat. 1 lin.

Hab. Port Jackson.

More elongated and less triangular than *M. ochracea*, Angas, and wanting the orange effuse band and pale varix of the latter.

OBELISCUS JUCUNDUS, n. sp. (Plate XXVI. fig. 10.)

Shell elongately subulate, smooth, shining, white, with two light-brown bands on each whorl, three on the last one; whorls 9, nearly flat; apex papillary, sinistral; sutures impressed; aperture quadrately ovate; outer lip simple, arcuate; columella with a prominent twisted fold encircling the pillar.

Long. 3, lat. 1 lin.

Hab. Port Jackson, deep water (*Brazier*).

OSCILLA LIGATA, n. sp. (Plate XXVI. fig. 11.)

Shell very minute, elongately pupiform, rather thin, rosy white, transversely, broadly, and prominently ribbed; whorls 6, the apex terminating in a mucro or nipple; aperture quadrately ovate; outer lip simple; interior of the columella furnished with a single small transverse tooth or plait.

Long. 1, lat. $\frac{1}{3}$ lin.

Hab. Botany Bay, New South Wales.

This curious little shell is remarkable for its mucronate apex, and its pale pinkish colour. It belongs to the Pyramidellidæ.

STYLIFER BRAZIERI, n. sp. (Plate XXVI. fig. 12.)

Shell rather acuminate ovate, smooth, pellucid, white, polished; whorls 6, rounded, flattened just below the sutures, which are very finely callously marginate; spire elevated, apex styliform; aperture subovate, pointed behind, and rounded in front; outer lip thin, simple; columella arcuate, very slightly thickened above, the margins joined by a thin distinct callus.

Length 2 lines, breadth 1 line.

Hab. "Sow and Pigs," Port Jackson. Parasitic on a species of starfish (*Brazier*).

CONUS METCALFEI, n. sp. (Plate XXVI. fig. 13.)

Shell triangularly elongate, very slightly everted towards the base, ornamented with rows of small distant square or elongated irregular brownish-yellow spots, those in the centre larger and more varied in shape, forming a sort of band, sculptured all over with rows of minute, close-set, oblong punctures more numerous and distinct towards the base, which is encircled by a number of narrow elevated ridges; whorls 7, upper ones slightly concave, spirally striated, and

cancellated with fine, close-set, thread-like lines; apex of the spire elevatedly produced.

Long. 10, lat. 6 lin.

Hab. Dredged at "Sow and Pigs" reef, Port Jackson (*Brazier*).

A very elegant cone, totally distinct in its characters from any other Australian species.

BITTIUM TURRITELLIFORMIS, n. sp. (Plate XXVI. fig. 14.)

Shell elongately turreted, rather thin, light yellowish brown, inclining to reddish purple on the upper whorls, transversely finely ridged, the interstices very minutely and closely longitudinally striated, the last whorl keeled below, with the base smooth and slightly concave; whorls 10, convex; sutures impressed; aperture roundly ovate; outer lip simple, arcuate; columella somewhat thickened and twisted towards the base, canal short.

Long. 4, lat. 1 lin.

Hab. Port Jackson (*Brazier*).

Were it not for the form of the aperture, this shell might easily be mistaken for a little *Turritella*.

ALVANIA ELEGANS, n. sp. (Plate XXVI. fig. 15.)

Shell minute, imperforate, scalariform, moderately solid, whitish, regularly cancellated by three transverse (on the last whorl four) and several longitudinal ribs, which become sharply nodulous at the intersections; whorls 5, convex, sutures deeply incised; aperture circular; lip flattened and variced externally.

Long. $1\frac{1}{4}$, lat. $\frac{1}{2}$ lin.

Hab. Port Jackson.

This beautifully sculptured species is from shell-sand.

ALVANIA GRACILIS, n. sp. (Plate XXVI. fig. 16.)

Shell imperforate, elevatedly turbinated, moderately solid, light purplish brown; whorls 5, longitudinally ribbed as far as the periphery of the last whorl, and strongly transversely lirated throughout, the intersections producing a regular beaded appearance; the transverse ridges towards the base strongly defined; aperture subcircular, peritreme thickened.

Length $1\frac{1}{4}$, breadth $\frac{1}{2}$ line.

Hab. Port Jackson, from shell-sand (*Brazier*).

TORCULA PARVA, n. sp. (Plate XXVI. fig. 17.)

Shell narrowly acuminate turreted, very pale brown, with an indistinct light-chestnut band at the sutures, transversely very finely ridged, with three rather prominent keels on each whorl; whorls 11, slightly convex; sutures impressed; aperture subquadrate; outer lip simple; columella slightly arcuate above, a little thickened and produced at the base.

Long. $4\frac{1}{2}$, lat. 1 lin.

Hab. Dredged at the "Sow and Pigs" bank, Port Jackson (*Brazier*).

TURBO EXQUISITUS, n. sp. (Plate XXVI. fig. 18.)

Shell small, imperforate, solid, pale greenish buff or light pink, painted with very broad descending flames of an orange colour on the upper portion of the whorls; whorls $4\frac{1}{2}$, angulated at the periphery, flattened above, the upper whorls encircled below the angle with two, and the last whorl with five stout scabrously nodulous ribs; between these and the sutures are four or five smaller and closer ribs of a similar character, and on the base of the last whorl about eight ribs, which are less nodulous and scabrous than those above, the interstices being crossed by fine striæ; spire somewhat elevated; aperture nearly circular; columella thickened, terminating in a blunt callosity at the base; pearly within.

Length 6, breadth $4\frac{1}{2}$ lines.

Hab. Cape Solander, Botany Bay: found after an easterly gale (*Brazier*).

A variety occurs of a brilliant orange-red colour throughout.

CYLICHNA ELEGANS, n. sp. (Plate XXVI. fig. 19.)

Shell elongately ovate, umbilicated, rather thin, white, irregularly and faintly longitudinally striated, the striæ more distinct and equal near the apex, transversely ornamented with numerous rows of very fine, close-set, crenate, interrupted lines, which, together with the longitudinal striæ, become very nearly obsolete towards the centre; apex perforate, somewhat tumid around the perforation; aperture narrow above, wider below; outer lip thin, simple; columella short, smooth, very slightly expanded over the umbilicus.

Length 6, breadth 3 lines.

Hab. Port Stephens, New South Wales (*Brazier*).

DIAPHANA BRAZIERI, n. sp. (Plate XXVI. fig. 20.)

Shell subglobose, with a long narrow open umbilicus, thin, hyaline, covered with a fine membranaceous olive epidermis; last whorl inflated; spire flatly depressed; whorls $3\frac{1}{2}$, rounded above, sutures impressed; aperture contracted above, subovate below; outer lip sharply angled posteriorly, slightly sinuous, arcuate below; columella abruptly truncate below the umbilicus.

Length 2 lines, breadth $1\frac{1}{2}$ line.

Hab. "Sow and Pigs," Port Jackson. In 4 fathoms, sandy mud, on weeds (*Brazier*).

ERVILIA AUSTRALIS, n. sp. (Plate XXVI. fig. 21.)

Shell oblong-ovate, equivalve, subequilateral, moderately convex, rather solid, white, with one or two small light-brown markings on either side of the anterior portion of the dorsal margin, and sometimes on the posterior; finely transversely striated, and on either side crossed with a few delicate radiating lines, which are more numerous in front; umbones small, strongly defined, incurved, approximate; dorsal margins nearly flat; anterior side a little produced; posterior side rounded; ventral margin convex.

Long. $3\frac{1}{2}$, alt. $2\frac{1}{2}$, lat. $1\frac{1}{2}$ lin.

Hab. "Sow and Pigs" bank, Port Jackson (*Brazier*).

Gen. MYSELLA, Angas.

Shell small, thin, equivalve, inequilateral, quadrately cuneate, concentrically striated. Hinge with a small triangular internal cartilage-pit, close to which is a single small, diverging, subcircular, flattened cardinal tooth in one valve, and with two thin short horizontal lateral processes in the other valve. Siphonal inflection none.

132 MYSELLA ANOMALA, n. sp. (Plate XXVI. fig. 22.)

Shell somewhat triangularly ovate, compressed towards the base, rather thin, anterior side shortest, white, covered towards the edges with a pale brown epidermis, concentrically very finely and regularly ridged; dorsal margins nearly straight, anterior side somewhat compressed and subtruncate; posterior side rounded; ventral margin scarcely convex; umbones a little tumid; beaks small, incurved, approximate.

Long. 5, alt. 4, lat. 2 lin.

Hab. Shark Island, Port Jackson, in black mud, 12 fathoms (*Brazier*).

CYTHEREA SOPHIÆ, n. sp. (Plate XXVI. fig. 23.)

Shell small, roundly ovate, tumid, moderately solid, irregularly concentrically striated with the lines of growth, shining, white, painted with a narrow longitudinal band of irregular bright-chestnut markings on the anterior side of the valves, and a broader one of larger markings on the posterior side, leaving a white ray in the centre; umbones tinged with yellow and carnation-red; lunule distinct.

Long. 6, alt. 5, lat. 4 lines.

Hab. Cape Solander, Botany Bay, after an easterly gale (*Brazier*).

The small size, rounded form, and rich colouring of the umbones lead me to consider this shell a distinct species from any of its allies. I have much pleasure in naming it after Mrs. *Brazier*.

LUCINA (CODAKIA) QUADRATA, n. sp. (Plate XXVI. fig. 24.)

Shell quadrately ovate, moderately solid, subventricose, very inequilateral, yellowish white, very finely concentrically striated throughout, the striæ becoming slightly undulating and scabrous towards the base, where they are crossed on either side by broader radiating flattened ridges; dorsal margin concavely excavated anteriorly, nearly straight and rapidly descending posteriorly; ventral margin arcuate, rounded in front; umbones acute, incurved, approximate; dorsal area excavated.

Long. 2, alt. $1\frac{1}{2}$, lat. 1 lin.

Hab. Shark Island, Port Jackson.

KELLIA SOLIDA, n. sp. (Plate XXVI. fig. 25.)

Shell somewhat quadrately ovate, rather tumid, inequilateral, anterior side the shortest, solid, opaque, white, shining, smooth and polished at the umbones, showing irregular concentric lines towards the base; umbones small, distinct, approximate; anterior side

obtuse, posterior side arcuate; dorsal margin arched, basal margin very slightly arcuate.

Long. $3\frac{1}{2}$, alt. $2\frac{1}{2}$, lat. $1\frac{3}{4}$ lines.

Hab. "Bottle and Glass" rocks, Vacluse Bay, Port Jackson (*Brazier*).

A very solid, pure white, shining species, more oblong than most others of the genus.

NUCULA PUSILLA, n. sp. (Plate XXVI. fig. 26.)

Shell minute, obliquely and triangularly ovate, subventricose, inequilateral, rather thin, pale greenish white, under the lens very finely concentrically striated, and crossed with exceedingly delicate radiating hair-like lines; dorsal margin sloping and convex posteriorly, shorter in front; ventral margin arcuate; umbones tumid, approximate.

Long. $1\frac{1}{3}$, alt. 1, lat. $\frac{2}{3}$ lin.

Hab. Port Jackson, in shell-sand (*Brazier*).

LEDA ENSICULA, n. sp. (Plate XXVI. fig. 27.)

Shell equivalve, very inequilateral, depressed, ovately oblong, the anterior side attenuated into a long narrow rostrum curving upwards, rather thin, whitish, covered with a delicate pale olive-coloured epidermis, finely and irregularly concentrically striated by the lines of growth, with a few very faint striæ radiating anteriorly from the umbones; dorsal margin concave in front and excavated on both sides with two narrow diverging ridges extending from the beaks to the end of the rostrum, the space between them being crossed with fine striæ, short and convex behind; posterior side bluntly angled; ventral margin arcuate; beaks small, distinct, approximate, incurved.

Long. 7, alt. 3, lat. $1\frac{1}{8}$ line.

Hab. Brought up from a depth of 45 fathoms on the "tangles" of the dredge, off Port-Jackson Heads (*Brazier*).

A very remarkable shell, quite unlike any other Australian form of the genus at present known.

EXPLANATION OF PLATE XXVI.

- Fig. 1. *Bulinus ponsonbii*, p. 170.
 2. *Paludina gilesi*, p. 170.
 3. *Murex brazieri*, p. 171.
 4. *Peristernia brazieri*, p. 171.
 5. *Truncaria australis*, p. 172.
 6. *Olivella brazieri*, p. 172.
 7. *Columella (Anachis) smithi*, p. 172.
 8. *Marginella strangei*, p. 172.
 9. — *metcalfi*, p. 173.
 10. *Obeliscus jucundus*, p. 173.
 11. *Oscilla ligata*, p. 173.
 12. *Stylifer brazieri*, p. 173.
 13. *Conus metcalfi*, p. 174.
 14. *Bittium turritelliformis*, p. 174.

- Fig. 15. *Alvania elegans*, p. 174.
 16. — *gracilis*, p. 174.
 17. *Torcula parva*, p. 174.
 18. *Turbo exquisitus*, p. 175.
 19. *Cylichna elegans*, p. 175.
 20. *Diaphana brazieri*, p. 175.
 21. *Ervilia australis*, p. 175.
 22. *Mysella anomala*, p. 176.
 23. *Cytherea sophie*, p. 176.
 24. *Lucina (Codakia) quadrata*, p. 176.
 25. *Kellia solida*, p. 176.
 26. *Nucula pusilla*, p. 177.
 27. *Leda ensicula*, p. 177.

6. A further List of Additional Species of Marine Mollusca to be included in the Fauna of Port Jackson and the adjacent Coasts of New South Wales. By GEORGE FRENCH ANGAS, F.L.S., F.R.G.S., C.M.Z.S., &c.

[Received February 19, 1877.]

In the year 1867 I published in these 'Proceedings' a list of the Marine Mollusks of Port Jackson and the coast of New South Wales, amounting in all to 408 species¹. In 1871 I gave an additional list, comprising 109 more species². I am now enabled, through the indefatigable researches of Mr. Brazier, and from other sources, to add a further list of 140 univalves, and 36 bivalves; thus bringing up the number of species of Marine Mollusca at present known to inhabit the coast of New South Wales to a grand total of 693.

Class CEPHALOPODA.

Fam. NAUTILIDÆ.

1. NAUTILUS POMPILIUS, Linn.

Cast ashore at Coff's Harbour, north of the Bellinger River.

2. NAUTILUS MACROMPHALUS, Sow.

Same locality as *N. pompilius*.

Class PTEROPODA.

Fam. CAVOLINIDÆ.

3. CAVOLINA GIBBOSA, Rang.

Found washed up on exposed beaches all along the coast.

4. CAVOLINA FLAVA, D'Orb.

Obtained in the dredge at night, in Port Jackson.

5. CAVOLINA QUADRIDENTATA, Lesueur.

On exposed beaches.

6. CAVOLINA LONGIROSTRIS, Lesueur.

Obtained in the dredge with *C. flava*, in Port Jackson.

7. CAVOLINA LIMBATA, D'Orb.

On exposed beaches.

8. CAVOLINA INFLEXA, Lesueur.

On exposed beaches.

9. DIACRIA MUCRONATA, Quoy & Gaim.

Port Stephens.

10. STYLIOLA SUBULATA, Quoy & Gaim.

On exposed beaches.

¹ See P. Z. S. 1867, pp. 185, 908, 912.

² See P. Z. S. 1871, p. 87.

Fam. TRIPTERIDÆ.

11. TRIPTERA COLUMNELLA, Rang.

On exposed beaches.

Class GASTEROPODA.

PROBOSCIDIFERA.

Fam. MURICIDÆ.

12. MUREX BRAZIERI, Angas, P.Z. S. 1877, p. 171, pl. xxvi. fig. 3.

A minute, imbricately sculptured species, having the two central transverse liræ double.

Dredged outside Port-Jackson Heads in 20 fathoms (*Brazier*).

13. MUREX (CHICOREUS) CERVICORNIS, Lam. ; Reeve, Conch. Icon. *Murex*, pl. 16.

Brought up in the dredge, 25 miles off Montagu Island, coast of New South Wales, from a very great depth, in company with *Cypreovula umbilicata*, *Voluta papillosa*, and a large species of *Limopsis* ('Challenger' Expedition, *teste Brazier*).

Subfamily FUSINÆ.

14. FUSUS LATICOSTATUS, Desh.

Beaches near Redbank River, New South Wales (*Brazier*).

15. FUSUS NOVÆ-HOLLANDIÆ, Reeve.

Cape Solander, Botany Bay (*Brazier*).

Fam. FASCIOLARIIDÆ.

16. PERISTERNIA BRAZIERI, Angas, P. Z. S. 1877, p. 171, pl. xxvi. fig. 4.

Redbank River, New South Wales (*Brazier*).

Although in this species the fold on the columella is wanting, its general characters partake more of those of *Peristernia* than of *Fusus*.

Fam. TRITONIIDÆ.

17. TRITONIUM (SIMPULUM) GEMMATUM, Reeve.

Cape Banks, Botany Bay (*Brazier*).

18. TRITONIUM (GUTTURNIUM) CAUDATUM, Gmel.

Triton canaliferus, Lam. ; Reeve, Conch. Icon. pl. iii. fig. 8.

Port Stephens and near mouth of Macleay River.

19. TRITONIUM (EPIDROMUS) COXI, Brazier, P. Z. S. 1872, pl. iv. fig. 9.

Near Bellenger River (*Brazier*).

20. BURSA (LAMPAS) HIANIS, Schum.

Murex lampas, Linn.

Triton lampas, Reeve, Conch. Icon. pl. ix. f. 30.

Near mouth of Macleay River (*Brazier*).

21. BURSA (LAMPAS) GRANIFERA, Lam.

Ranella granifera, Lam. Enc. Méth. pl. 414. fig. 4.

Near Macleay River.

22. BURSA (LAMPAS) VENUSTULA.

Ranella venustula, Reeve, Conch. Icon. pl. vii. fig. 37.

Taken alive at "Bottle and Glass" rocks, Port Jackson, by Mr. Rossiter.

23. BURSA (APOLLON) ANCEPS, Lam.

Port Stephens (*Brazier*).

Fam. BUCCINIDÆ.

24. COMINELLA ALVEOLATA, Kien.

Twofold Bay. Ranges westward to Port Lincoln.

Subfamily NASSINÆ.

25. NASSA (NIOTHA) GEMMULATA, Lam.

Near Redbank River (*Brazier*).

26. NASSA (HIMA) DECUSSATA, Kien.

Brisbane Water (*Strange*).

NASSA (ALECTRION) INTERMEDIA, Dunker, 'Novara' Exp. Moll. tab. i. fig. 2.

In my first list, I gave this species as *N. suturalis*, var. (*Buccinum suturale*, Lam.). It must now stand as *N. intermedia*, Dunker.

Port Jackson.

27. NASSA (ALECTRION) SPIRATA, A. Ad. P. Z. S. 1851, p. 106.

Broken Bay, and Port Stephens (*Brazier*).

28. TRUNCARIA AUSTRALIS, Angas, P. Z. S. 1877, p. 172, pl. xxvi. fig. 5.

"Sow and Pigs" bank, Port Jackson (*Brazier*).

Subfam. PURPURINÆ.

29. PURPURA (CRONIA) ANOMALA, Angas, P. Z. S. 1877, pl. v. fig. 1.

Dredged in 25 fathoms outside Port-Jackson Heads (*Brazier*).

30. RICINULA (SISTRUM) ADELAIIDENSIS, Crosse, Journ. de Conch. 1865, pl. ii. fig. 1.

Jervis Bay. Common in South Australia.

Fam. DACTYLIDÆ.

31. OLIVA ERYTHROSTOMA, Lam.

Near Redbank River (*Brazier*).

32. OLIVELLA BRAZIERI, Angas, P. Z. S. 1877, p. 172, pl. xxvi. fig. 6.

Newcastle beach, New South Wales (*Brazier*).

Fam. FASCIOLARIIDÆ.

33. FASCIOLARIA CORONATA, Lam.

Twofold Bay. Ranges westward to the Great Australian Bight.

34. LATIRUS STRANGEI, A. Ad. P. Z. S. 1854, p. 316.

Port Jackson (*Stronge*).

Fam. VOLUTIDÆ.

35. VOLUTELLA PAPILLOSA, Swainson.

Voluta papillaris, Reeve, Conch. Icon. pl. iv. fig. 10.

Obtained in the dredge in very deep water near Montagu Island, 25 miles off the coast of New South Wales (*Brazier*).

36. SCAPHA MAMILLA, Gray.

Found on the beach near Lake Macquarie (*Brazier*).

37. CALLIPARA BRAZIERI, Cox, P. Z. S. 1873, pl. xlviii. fig. 8.

Little River. Wooli Wooli, near mouth of the Clarence river (*Brazier*).

The type of Dr. Gray's genus *Callipara* is the *Voluta bullata*, Swainson, from Algoa Bay, South Africa. Another Australian species of this curious genus has been found at Nicol Bay, on the north-west coast, and described by Dr. Cox (P. Z. S. 1871, pl. xxxiv. fig. 5) as *V. coniformis*.

38. MICROVOLUTA AUSTRALIS, Angas, P. Z. S. 1877, pl. v. fig. 2.

Dredged in 25 fathoms outside Port-Jackson Heads (*Brazier*).

This singular little shell has somewhat the aspect of a *Voluta fulgetrum* in miniature; but the deep siphonal notch and the toothed projection of the base of the pillar are wanting, the base being rounded and spout-shaped.

Fam. MITRIDÆ.

39. MITRA (NEBULARIA) BADIA, Reeve.

Shark Island, Port Jackson (*Brazier*).

Subfam. COLUMBELLINÆ.

40. COLUMBELLA TYLERI, Gray.

Near Bellenger River (*Brazier*).

41. COLUMBELLA (ANACHIS) SMITHI, Angas, P. Z. S. 1877, p. 172, pl. xxvi. fig. 7.

A minute brown species zoned with white dots. Under stones in Port Jackson.

The *C. lentiginosa* of Reeve (*not* Hinds) is from North Australia. I propose that it should be called *C. darwini*.

42. *COLUMBELLA SPECIOSA*, Angas, P. Z. S. 1877, pl. v. fig. 3.
Port Jackson (*Brazier*).

Columbella dermestoides, Kiener, in my List in P. Z. S. 1867, p. 195, must be altered to *C. lineolata*, Pease.

Columbella interrupta, Angas, has been altered to *C. angasi*, Brazier, the former name being preoccupied.

Fam. MARGINELLIDÆ.

43. *MARGINELLA ANGASI*, Brazier, MS.; Crosse, Journ. de Conch. 1870, p. 304.

Port Jackson. "Bottle and Glass" rocks.
An extremely minute, hyaline species.

44. *MARGINELLA STRANGEI*, Angas, P. Z. S. 1877, p. 172, pl. xxvi. fig. 8.

"Sow and Pigs" bank, Port Jackson (*Brazier*).

45. *MARGINELLA NETCALFI*, Angas, P. Z. S. 1877, p. 173, pl. xxvi. fig. 9.

Port Jackson (*Brazier*).

46. *PORCELLANA RUFULA*, Gask. MS.; Reeve, Conch. Icon. *Marginella*, fig. 149.

Outside Port-Jackson Heads, 25 fathoms (*Brazier*).

A beautiful little shell with an elongated spire and two coloured bands. The type specimen from Mr. Taylor's collection, now in the British Museum, is from the Cape of Good Hope, and of a roseate hue; the Australian specimens obtained by Mr. Brazier have yellow bands.

47. *ERATO ANGIOSTOMA*, Sow. Thes. Conch.

Outside Port-Jackson Heads (*Brazier*).

An elegantly shaped species, with the outer lip angulated and produced at the upper part.

48. *ERATO CORRUGATA*, Hinds.

Vaucluse Bay, sandy mud, 8 fathoms (*Brazier*).

Fam. SYCOTYPIDÆ.

49. *SYCOTYPUS RETICULATUS*, Lam.

Near the mouth of the Macleay river.

Fam. NATICIDÆ.

50. *NATICA ALA-PAPILIONIS*, Chem.

Port Stephens and near Redbank River.

51. *NATICA (RUMA) FILOSA*, Sow. MS. in Mus. Cuming.

Natica filosa, Reeve, Conch. Icon. pl. xvii. fig. 72.

Farm Cove, Port Jackson, in 5 fathoms. Port Stephens, after gales.

52. *NATICA COLLIEI*, Recluz (= *N. concinna*, Dunker).
Parramatta river, New South Wales, 7 fathoms (*Brazier*).

53. *NATICINA COARCTATA*, Reeve.
New South Wales (*Brazier*).

Fam. *CASSIDIDÆ*.

54. *SEMICASSIS PAUCIRUGIS*, Menke.
Merimbula and Twofold Bay (*Brazier*).

55. *SEMICASSIS CORONULATA*, Sow. Tank. Cat.
Port Stephens ; Macleay River (*Brazier*).

56. *SEMICASSIS TORQUATA*, Reeve.
Macleay river.

57. *SEMICASSIS AREOLA*, Linn.
Bellenger and Macleay river-beaches, and southwards to Broken Bay (*Brazier*).

58. *SEMICASSIS SABURON*, Adanson.
Macleay, Bellenger, Nambuccra, and Redbank beaches.

59. *SEMICASSIS SOPHIÆ*, *Brazier*, P. Z. S. 1872, p. 617.
Macleay and Nambuccra.

60. *SEMICASSIS PILA*, Reeve.
Near Redbank River (*Brazier*).

Fam. *SCALIDÆ*.

61. *SCALA CLATHRUS*, Linn.
Port Stephens and Broken Bay (*Brazier*).

62. *CIRSOTREMA HYALINA*, Sow.
"Sow and Pigs" bank, 5 fathoms (*Brazier*).

Fam. *PYRAMIDELLIDÆ*.

63. *TURBONILLA FESTIVA*, Angas, P. Z. S. 1877, pl. v. fig. 4.
Port Jackson, deep water (*Brazier*).

For *Turbonilla nitida*, Angas, in my first list of Port-Jackson shells, read *T. hofmani*, there being a species from Japan described by Arthur Adams under the name *nitida* in the 'Annals' for 1860.

64. *OBELISCUS JUCUNDUS*, Angas, P. Z. S. 1877, p. 173, pl. xxvi. fig. 10.
Port Jackson (*Brazier*).

65. *OSCILLA LIGATA*, Angas, P. Z. S. 1877, p. 173, pl. xxvi. fig. 11.
Botany Bay, New South Wales (*Brazier*).

66. *CINGULINA BRAZIERI*, Angas, P. Z. S. 1877, pl. v. fig. 5.
Port Jackson.

Fam. STYLIFERIDÆ.

67. *APICALIA GUENTHERI*, Angas, P. Z. S. 1877, pl. v. fig. 6.
New South Wales (*Mus. Brit.*).

68. *STYLIFER BRAZIERI*, Angas, P. Z. S. 1877, p. 173, pl. xxvi.
fig. 12.

“Sow and Pigs,” parasitic on a Starfish (*Brazier*).

This appears to be a true *Stylifer*: it has a more elongated spire than the typical species; and the sutures are finely callously margined.

Fam. CERITHIOPSIDÆ.

69. *CERITHIOPSIS PURPUREA*, Angas, P. Z. S. 1877, pl. v. fig. 7.
Dredged off Shark Island, Port Jackson (*Brazier*).

70. *TRIFORIS MACULOSUS*, A. Ad.
Port Jackson (*Brazier*).

Fam. ARCHITECTONICIDÆ.

71. *ARCHITECTONICA PERSPECTIVA*, Linn.
Near the mouth of the Macleay river (*Brazier*).

72. *TORINIA INFUNDIBULIFORMIS*, Chemn.

On the beach near Newcastle, New South Wales (*Brazier*).

This species differs from *T. straminea*, Lam., in the form and character of the umbilicus.

TOXIFERA.

Fam. CONIDÆ.

73. *CONUS (CORONAXIS) MINIMUS*, Linn.
Near Bellenger and Redbank rivers (*Brazier*).

74. *CONUS METCALFI*, Angas, P. Z. S. 1877, p. 174, pl. xxvi.
fig. 13.

“Sow and Pigs” bank, 4 fathoms (*Brazier*).

A very elegantly painted cone, of which one living specimen only has yet been obtained.

75. *CONUS SMITHI*, Angas, P. Z. S. 1877, p. 36, pl. v. fig. 8.
Cape Solander, Botany Bay.

Fam. TURRIDÆ.

76. *DRILLIA ÆMULA*, Angas, P. Z. S. 1877, p. 36, pl. v. fig. 9.
Coast of New South Wales; also New Zealand.

77. *CLATHURELLA BRENCHLEYI*, Angas, P. Z. S. 1877, pl. v. fig. 12.
Port Stephens (*Brazier*).

78. *CLATHURELLA RUFOZONATA*, Angas, P. Z. S. 1877, pl. v. fig. 13.
Port Jackson.

79. *CLATHURELLA PUSTULATA*, P. Z. S. 1877, p. 38, pl. v. fig. 14.
Port Jackson (*Brazier*).

80. *CLATHURELLA MODESTA*, Angas, P. Z. S. 1877, p. 38, pl. v.
fig. 15.

Port Jackson (*Brazier*).

81. *MANGELIA JACKSONENSIS*, Angas, P. Z. S. 1877, pl. v. fig. 10.
Dredged off Port-Jackson Heads in 25 fathoms (*Brazier*).

82. *MANGELIA FLAVESCENS*, Angas, P. Z. S. 1877, pl. v. fig. 11.
Port Jackson (*Brazier*).

83. *MANGELIA LALLEMANTIANA*.

Pleurotoma lallemantiana, Crosse, Journ. de Conch. 1865.

North and Middle Harbours, Port Jackson (*Brazier*).

84. *MANGELIA VINCENTINA*.

Pleurotoma vincentina, Crosse, Journ. de Conch. 1865.

Dredged off Port-Jackson Heads; Cabbage-Tree Bay (*Brazier*).

The figure given in the French Journal of this species is so bad, no one could recognize it. The shell is white, with a row of brown spots between the ribs a little below the sutures, and sometimes with a central band on the last whorl. Crosse figures it of a uniform brown colour.

Fam. TEREBRIDÆ.

85. *TEREBRA GUNNI*, Reeve.

In 45 fathoms, due east of Port Jackson, and in 20 fathoms,
Jervis Bay (*Brazier*).

86. *TEREBRA MARMORATA*, Desh. P. Z. S. 1859, p. 279.

Near Redbank River (*Brazier*).

87. *ACUS (HASTULA) SPECTABILIS*, Hinds.

Near Redbank River (*Brazier*).

88. *ACUS (EURYTA) BRAZIERI*, Angas, P. Z. S. 1875, pl. xlv. f. 5.

Dredged off Port-Jackson Heads in 25 fathoms (*Brazier*).

ROSTRIFERA.

Fam. STROMBIDÆ.

89. *STROMBUS (CANARIUM) PLICATUS*, Lam.

Near the Nambuccra river (*Brazier*).

90. *STROMBUS (CANARIUM) ELEGANS*, Sow.

"Sow and Pigs" reef, Port Jackson (*Brazier*).

91. *STROMBUS (GALLINULA) CAMPBELLI*, Gray.

Port Stephens (*Brazier*).

92. *HARPAGO* (MILLIPES) *SCORPIO*, Linn.

"Bottle and Glass" rocks, Port Jackson (*Brazier*).

Fam. *CYPRÆIDÆ*.93. *CYPRÆA* *MILARIS*, Linn.

Macleay-River Heads (*Brazier*).

94. *CYPRÆA* *CAPUT-ANGUIS*, Philippi.

Shark Island, Port Jackson ; Botany Bay ; Lake Macquarie, &c. (*Brazier*).

Fam. *AMPHIPERASIDÆ*.95. *AMPHIPERAS* *OVUM*, Linn.

Near Bellenger River (*Brazier*).

96. *AMPHIPERAS* *DENTATA*, Ad. & Reeve.

"Sow and Pigs" bank, Port Jackson (*Brazier*).

A beautiful little species of a purplish flesh-colour, with a pale band.

97. *AMPHIPERAS* *PUNCTATA*, Duclos.

Port Stephens (*Brazier*).

98. *VOLVA* *VOLVA*, Linn.

Port Stephens (*Brazier*).

99. *VOLVA* *PHILLIPINARUM*, Sow.

Port Stephens (*Brazier*).

Fam. *CANCELLARIIDÆ*.100. *CANCELLARIA* (*TRIGONOSTOMA*) *ANTIQUATA*, Hinds.

Dredged in 7 fathoms off Green Point, Port Jackson ; also cast ashore after gales at Port Stephens, and near Redbank River (*Brazier*).

101. *CANCELLARIA* (*TRIGONOSTOMA*) *COSTIFERA*, Sow., var.

A dwarf variety. Port Stephens (*Brazier*).

Fam. *CERITHIIDÆ*.102. *CERITHIUM* *CARBONARUM*, Phil., var.

Redbank River, New South Wales (*Brazier*).

This appears to be a dark-brown-coloured variety of Philippi's species, which is stated to come from Samoa.

Subfam. *POTAMIDINÆ*.103. *BITTIUM* *TURRITELLIFORMIS*, Angas, P. Z. S. 1877, p. 174, pl. xxvi. fig. 14.

Port Jackson (*Brazier*).

Fam. LITTORINIDÆ.

104. LITTORINA UNDULATA, Gray.

Port Stephens (*Brazier*).

Fam. RISSOIDÆ.

Rissoina turricula, Angas, P. Z. S. 1867 (name preoccupied), is *R. angasi* of Pease.*Rissoina smithi*, Angas, P. Z. S. 1867, is *R. fasciata*, A. Ad. P. Z. S. 1851. (Former name must be cancelled.)

105. RISSOINA HANLEYI, Schwartz.

Port Jackson (*Brazier*).Smaller than *R. fasciata*. White, variously banded with purple and brown.

106. RISSOA FRAUENFELDI, Schwartz; Dunker, Voy. 'Novara,' pl. ii. fig. 13.

Shark Island, Port Jackson.

107. ALVANIA OLIVACEA, Dunker, Voy. 'Novara,' pl. ii. fig. 14.

Port Jackson, under stones.

108. ALVANIA SALEBROSA, Dunker, Voy. 'Novara,' pl. ii. fig. 15.

Bondi, Botany, and Coodgee Bays.

109. ALVANIA GRACILIS, Angas, P. Z. S. 1877, p. 174, pl. xxvi. fig. 16.

Port Jackson. Shell-sand (*Brazier*).

110. ALVANIA ELEGANS, Angas, P. Z. S. 1877, p. 174, pl. xxvi. fig. 15.

Port Jackson. Shell-sand (*Brazier*).

111. SABINÆA FLAMINEA, Dunker, Voy. 'Novara,' pl. ii. fig. 18.

Bondi and Coodgee Bays.

112. SABINÆA INCIDATA, Dunker, Voy. 'Novara,' pl. ii. fig. 19.

Botany and Coodgee Bays.

113. ANABATHRON CONTABULATA, Dunker, Voy. 'Novara,' pl. ii. fig. 20.

Coodgee and Botany Bays.

114. SETIA ATROPURPUREA, Dunker, Voy. 'Novara,' pl. ii. fig. 21.

Botany, Bondi, and Coodgee Bays.

115. SETIA NITENS, Dunker, Voy. 'Novara,' pl. ii. fig. 22.

116. CINGULA AUSTRALIÆ, Dunker, Voy. 'Novara,' pl. ii. fig. 23.

Fam. TURRITELLIDÆ.

117. TURRITELLA (HAUSTATOR) GUNNI, Reeve.

Twofold Bay (*Brazier*).

118. *TURRITELLA* (*HAUSTATOR*) *INCISA*, Reeve.

Port Jackson, deep water (*Strange*).

119. *TORCULA PARVA*, Angas, P. Z. S. 1877, p. 174, pl. xxvi. fig. 17.

"Sow and Pigs" bank, Port Jackson (*Brazier*).

Fam. CALYPTRÆIDÆ.

120. *CALYPTRÆA POROSA*, Reeve, Conch. Icon. fig. 20.

"Sow and Pigs" bank, Port Jackson, four fathoms (*Brazier*).

The specimen obtained by Mr. Brazier is less corrugated than the type specimen, and is probably a young shell.

Order SCUTIBRANCHIATA.

PODOPHTHALMA.

Fam. NERITIDÆ.

121. *NERITA RUMPHII*, Récluz.

Near Redbank River.

Fam. TROCHIDÆ.

122. *TURBO PETHOLATUS*, Linn.

Middle Harbour, Port Jackson, and northwards to the Clarence river (*Brazier*).

123. *TURBO EXQUISITUS*, Angas, P. Z. S. 1877, p. 175, pl. xxvi. fig. 18.

Cape Solander, Botany Bay; washed on shore after an easterly gale (*Brazier*).

This little species is elaborately and beautifully sculptured; one specimen is clouded with pale brown, red, and white; the other is of a uniform coral-red colour. Its nearest ally is *T. gemmatus*, Reeve, from the Taylor collection.

124. *CLANCULUS UNDATUS*, Lam.

Twofold Bay (*Brazier*). Also found in South Australia.

125. *ZIZIPHINUS ARMILLATUS*, Wood.

Cape Solander, Botany Bay (*Brazier*). Also Encounter Bay, South Australia; and Tasmania.

126. *ZIZIPHINUS SPECIOSUS*, A. Ad. P. Z. S. 1854.

Port Stephens (*Brazier*).

127. *ZIZIPHINUS DECORATUS*, Phil.

Brisbane Water (*Strange*).

128. *ETHALIA BRAZIERI*, Angas, P. Z. S. 1877, pl. v. fig. 17.

Shell-sand, "Sow and Pigs" bank, Port Jackson.

129. *CIRSONELLA AUSTRALIS*, Angas, P. Z. S. 1877, pl. v. fig. 16.

Shell-sand, Botany Bay, New South Wales.

EDRIOPHTHALMA.

Fam. FISSURELLIDÆ.

"*Emarginula dilecta*, A. Ad. P. Z. S. 1851" (no. 211 in my first list of New-South-Wales Marine Mollusca, P. Z. S. 1867), should be altered to "*E. candida*, A. Ad. P. Z. S. 1851."

Fam. TECTURIDÆ.

130. TECTURA CONOIDEA, Quoy & Gaim.

"Sow and Pigs" reef, Port Jackson (*Brazier*).

TECTIBRANCHIATA.

Fam. ACTEONIDÆ.

131. MYONIA SINUATA, Angas, P. Z. S. 1877, pl. v. fig. 18.

"Sow and Pigs" bank, Port Jackson (*Brazier*).

Fam. APLUSTRIDÆ.

132. HYDATINA ALBOCINCTA, V. der Hoeven.

Port Stephens (*Brazier*).

Fam. BULLIDÆ.

133. BULLA AMPULLA, Linn.

Port Stephens and Bellinger River (*Brazier*).

134. BULLA (HAMINEA) CUTICULIFERA, Smith, Ann. & Mag. Nat. Hist. May 1872.

Port-Jackson Harbour.

135. BULLA (HAMINEA) CROCATA, Pease.

Lake Macquarie, New South Wales (*Brazier*).

Fam. CYLICHNIDÆ.

136. TORNATINA HOFMANI, Angas, P. Z. S. 1877, p. 39, pl. v. fig. 19.

"Sow and Pigs," Port Jackson.

137. TORNATINA BRENCHELEYI, Angas, P. Z. S. 1877, pl. v. fig. 20.

Dredged outside Port-Jackson Heads in 10 fathoms.

138. CYLICHNA ELEGANS, Angas, P. Z. S. 1877, p. 175, pl. xxvi. fig. 19.

Port Stephens, New South Wales (*Brazier*).

More ovate than others of the genus; beautifully transversely crenulately sculptured.

139. DIAPHANA BRAZIERI, Angas, P. Z. S. 1877, p. 157, pl. xxvi. fig. 20.

"Sow and Pigs," Port Jackson, in sandy mud and weeds, 4 fathoms (*Brazier*).

Only a single specimen of this remarkable shell has been found. Its nearest allies are *Bulla gouldi*, Couthouy, and *Bulla debilis*, Gould, both of which are North-American species.

Fam. LOPHOCERCIDÆ.

140. LOPHOCERCUS DELICATULUS, G. & H. Nevill, Journ. As. Soc. Bengal.

"Sow and Pigs," Port Jackson, amongst weeds on sandy mud (*Brazier*).

The type specimens of Messrs. Nevill are from Ceylon.

Fam. APLYSIIDÆ.

141. DOLABRIFERA BRAZIERI, Sow.

"Bottle and Glass" rocks, Port Jackson (*Brazier*).

142. APLYSIA EXCAVATA, Sow.

Port Jackson.

143. APLYSIA HYALINA, Sow.

Lane Cove, Port Jackson (*Brazier*).

144. APLYSIA SYDNEYENSIS, Sow.

Shark Island, Port Jackson (*Brazier*).

145. APLYSIA ANGASI, Sow.

"Sow and Pigs" reef (*Brazier*).

146. APLYSIA NORFOLKENSIS, Sow.

Shark Island, Port Jackson (*Brazier*).

HETEROPODA.

Fam. LANTHINIDÆ.

147. RECLUZIA HARGREAVESI, Cox, P. Z. S. 1870, pl. xvi. fig. 8.

Found washed ashore at the mouth of the Miall river, Port Stephens.

PULMONIFERA.

Fam. ELLOBIIDÆ.

148. OPHICARDELUS IRREGULARIS, MOUSS. Journ. de Conch. 1869.

Port Jackson.

149. OPHICARDELUS MINOR, MOUSS.

Port Jackson and Botany Bay.

Class CONCHIFERA

PHOLADACEA.

Fam. PHOLADIDÆ.

1. JOUANNETIA CUMINGI, Sow.

Mouth of Bellinger River in blocks of hard clay (*Brazier*).

Fam. GASTROCHÆNIDÆ.

2. HUMPHREYIA COXI, Brazier, P. Z. S. 1872, pl. iv. fig. 10.
Near Port Stephens (*Brazier*).

Fam. ANATINIDÆ.

3. THRACIA JACKSONIENSIS, Smith, Journ. Linn. Soc. (Zoology), vol. xii. pl. xxx. fig. 24.

Dredged at "Sow and Pigs" reef, Port Jackson (*Brazier*).

4. THRACIA ANGASIANA, Smith, Journ. Linn. Soc. (Zoology), vol. xii. pl. xxx. fig. 23.

"Sow and Pigs," Port Jackson (*Brazier*).

VENERACEA.

Fam. MACTRIDÆ.

5. TRIGONELLA EXIMIA, Desh. P. Z. S. 1853.

Dredged alive in Chowder Bay, Port Jackson (*Brazier*).

Fam. TELLINIDÆ.

6. TELLINA (ARCOPAGIA) DECUSSATA, Lam.

"Bottle and Glass" rocks, Port Jackson (*Brazier*).

7. SEMELE SCABRA, Hanley.

Dredged off Shark Island, Port Jackson, in black mud, 12 fathoms (*Brazier*).

8. DONAX (LATONA) RADIANUS, Lam.

Berry's Bay, Port Jackson, 5 fathoms (white var. *Brazier*).

9. DONAX (SERRULA) NITIDUS, Desh.

Dredged in Middle Harbour, 5 fathoms (*Brazier*).

10. ERVILIA AUSTRALIS, Angas, P. Z. S. 1877, p. 175, pl. xxvi. fig. 21.

"Sow and Pigs" bank, Port Jackson (*Brazier*).

11. MYSELLA ANOMALA, Angas, P. Z. S. 1877, p. 176, pl. xxvi. fig. 22.

Off Shark Island, Port Jackson, in black mud, 12 fathoms (*Brazier*).

Fam. VENERIDÆ.

12. CHIONE (CIRCOMPHALUS) LAMELLATA, Lam.

Dredged at "Sow and Pigs" bank, Port Jackson; also Jervis Bay (*Brazier*).

13. CHIONE (TIMOCLEA) GALLINULA, Lam.

Twofold Bay (*Brazier*).

14. *CALLISTA VICTORIÆ*, Woods, Proc. Roy. Soc. Tasmania, 1875, p. 27.

Lake Macquarie and Broken Bay, New South Wales. Also Tasmania, Victoria, and South Australia (*Brazier*).

15. *CYTHEREA SOPHIÆ*, Angas, P. Z. S. 1877, p. 176, pl. xxvi. fig. 23.

Cape Solander, Botany Bay; after an easterly gale (*Brazier*).

A small, rounded species, richly painted with orange-chestnut, with the umbones cornelian-red. I have named this pretty little shell after Mrs. Brazier.

16. *TAPES FLABAGELLA*, Desh.

Port Jackson; Lake Macquarie, New South Wales (*Brazier*). Also from Tasmania.

17. *TAPES (CUNEUS) GALACTITES*, Lam.

Jervis Bay (*Brazier*). Common in South Australia.

Fam. CARDIIDÆ.

18. *CARDIUM (ACANTHOCARDIA) MULTISPINOSUM*, Sow.

Live specimens, Macleay river; dead valves at Port Stephens (*Brazier*).

19. *CARDIUM RUGOSUM*, Lam.

Port Stephens (*Brazier*).

LUCINACEA.

Fam. LUCINIDÆ.

20. *LUCINA (CODAKIA) FIBULA*, Reeve.

Port Jackson and Port Stephens (*Brazier*).

21. *LUCINA (CYCLAS) CUMINGI*, A. Ad. & Angas, P. Z. S. 1863.

Dredged outside Port-Jackson Heads in 20 fathoms (*Brazier*).

22. *LUCINA (CYCLAS) ORNATA*, Reeve.

Port Jackson.

23. *LUCINA (CODAKIA) QUADRATA*, Angas, P. Z. S. 1877, p. 176, pl. xxvi. fig. 24.

Shark Island, Port Jackson.

Fam. LASEIDÆ.

24. *KELLIA SOLIDA*, Angas, P. Z. S. 1877, p. 176, pl. xxvi. fig. 25.

"Bottle and Glass" rocks, Vacluse Bay, Port Jackson (*Brazier*).

Fam. MYTILIDÆ.

25. *MYTILUS (AULACOMYA) KRAUSSI*, Küster; Reeve, Conch. Icon. *Mytilus*, pl. ix. fig. 40.

Variety of *M. nicobaricus*, Chemn.

Cape Banks, Botany Bay (*Brazier*).

PECTINACEA.

Fam. TRIGONIIDÆ.

26. TRIGONIA MARGARITACEA, Lam.

Twofold Bay (*Brazier*).

Fam. ARCIDÆ.

27. PECTUNCULUS GEALEI, Angas, P. Z. S. 1873, pl. xx. fig. 5.
Dredged off Port Macquarie (*Admiral Loring*).

28. LIMOPSIS CANCELLATUS, Reeve.

Outside Port-Jackson Heads, 45 fathoms (*Brazier*).

Fam. NUCULIDÆ.

29. NUCULA PUSILLA, Angas, P. Z. S. 1877, p. 177, pl. xxvi. fig. 26.
Port Jackson, in shell-sand (*Brazier*).

30. NUCULA SIMPLEX, A. Ad. P. Z. S. 1856.

Port Jackson (*F. Strange*).

Fam. LEDIDÆ.

31. LEDA CRASSA, Hinds, P. Z. S. 1843, p. 99.

Dredged off Port-Jackson Heads in 25 fathoms (*Brazier*).

32. LEDA ENSICULA, Angas, P. Z. S. 1877, p. 177, pl. xxvi. fig. 27.
Off Port-Jackson Heads, 45 fathoms (*Brazier*).

A very remarkable shell, with the anterior side produced into a long narrow beak, curving upwards.

Fam. PECTINIDÆ.

33. PECTEN ASPERRINUS, Lam.

Green Point, Port Jackson, and Twofold Bay (*Brazier*).

34. VOLA FUSCA, Klein.

Port Jackson and Port Stephens (*Brazier*). Also Moreton Bay.

35. AMUSSIUM BALLOTI, Bernardi, Journ. de Conch. 1861.

Neutral Bay, Port Jackson, obtained alive in the trawl in 6 fathoms, sandy mud (*Brazier*). Common in New Caledonia.

Fam. SPONDYLIDÆ.

36. PLICATULA IMBRICATA, Menke.

Port Jackson; Port Stephens (*Brazier*).

Fam. OSTREIDÆ.

37. OSTREA ANGASI, Sow. Conch. Icon. *Ostrea*, pl. xiii. fig. 27.

Neutral Bay, Port Jackson, sandy mud, 6 fathoms.

In my former list (Nov. 28, 1867) I gave this fine species as *Ostrea purpurea* (*Ostrea edulis*, var. *purpurea*, Hanley, Conch.

Miscell. pt. 3), at the same time expressing my opinion that it should be separated as a distinct species under the name of *purpurea*. Since then, Mr. Sowerby has published his Monograph of the genus *Ostrea* in the 'Conchologica Iconica;' and quite agreeing with my views as to the distinct characters of the Australian species from the European one, he has figured the magnificent specimen (18 inches in circumference) brought home by me from Port Jackson, and given the species my name.

7. Notes on some Birds mentioned by Dr. Cabanis and Hr. Reichenow as collected in Papuasias and in the Moluccas, during the Voyage of the 'Gazelle.' By T. SALVADORI, C.M.Z.S.

[Received February 19, 1877.]

In the third part of the 'Journal für Ornithologie' for 1876, there is a list of the birds collected during the voyage of the 'Gazelle,' by Cabanis and Reichenow¹. In that list are mentioned some species of Birds from Papuasias and the Moluccas, on which I wish to make some remarks.

PRATINCOLA CAPRATA (Linn.), New Guinea (!), *l. c.* p. 319.

I am rather surprised to find this species among the birds of New Guinea. *Pratincola caprata* did not appear in the very extensive collections which have been made in New Guinea by D'Albertis, Beccari and Bruijn, neither has it been mentioned by any writer on the birds of New Guinea, or of the Moluccas. Besides, the particular locality where it was collected is not mentioned by Cabanis and Reichenow; also it is to be noticed that there seems to be some mistake as regards the locality mentioned for other species included in the same list. For example, *Ptilopus globifer*, which previously was said to be from New Hanover, is now stated to be from New Ireland. Therefore, when I observe that other birds in the same collection are from Timor, I venture to ask whether the *Pratincola caprata* was not really obtained in Timor, where, as is well known, this bird lives.

RHIPIDURA FUSCESCENS, Cab. et Reichenow, *l. c.* p. 319, from Segar Bay, New Guinea, allied to *R. albiscapa* from Australia, is a species which I do not know.

LEUCOCERCA SETOSA (Quoy et Gaim.), *l. c.* p. 320, from Galeow Strait.

Muscipeta setosa (Quoy et Gaim.) was described from New Ireland; and I doubt whether it may be safely identified with *Rhipidura gularis*, Müll., from New Guinea; the descriptions of the two birds do not agree in several particulars.

¹ Uebersicht der auf der Expedition Sr. Maj. Schiff 'Gazelle' gesammelten Vögel (*l. c.* pp. 319-330).

MONARCHA CORDENSIS, Meyer, New Hanover (!), *l. c.* p. 320.

This species has been described from Mysore; and knowing what a limited range the species from the islands of Geelvink Bay which are representatives of New-Guinea forms have, I am rather inclined to suspect that the bird from New Hanover may belong to a different species.

MELIDIPNUS MEGARHYNCHUS (Gr.), *l. c.* p. 321.

The new genus *Melidipnus* has the same type as my genus *Melilestes*, Ann. Mus. Civ. Gen. vii. p. 950 (1875).

The *Tropidorhynchus gilolensis* (which I take to be the same as *Melitograis striata*, Sund. Meth. Nat. Av. disp. Tent. p. 50), according to me, does not belong to the same genus, but must be left in the distinct genus *Melitograis*, or referred to *Philemon* (restricted).

GRACULA GNATHOPTILA, Cab. et Rehnw., *l. c.* p. 322, New Hanover.

Cabanis and Reichenow say that this species differs from *Gracula kreffti*, Sclat., in having a yellow belly and in the complete absence of the naked skin along the lower edge of the mandible. I doubt whether the above-mentioned characters are sufficient to distinguish the New Hanoverian bird from that of the Solomon Islands. Having been able, through the kindness of my friend Dr. Sclater, to examine the type specimen of his *G. kreffti*, I have found that, although rather discoloured by the spirit of wine in which it has been preserved, that bird also has a yellow belly; and, according to my notion, the naked line along the lower edge of the mandible being much narrower depends on the way in which the bird has been skinned and stuffed. In a very large series of specimens of *G. dumonti* from New Guinea and the Arn Islands there is a great variation in the width of the naked skin along the lower edge of the mandible, some examples having it much narrower than others, according to the way they have been skinned.

I take this opportunity to state that the figure of *Gracula kreffti* (P. Z. S. 1869, pl. ix.) is quite wrongly coloured on the lower part of the back and on the upper tail-coverts, where, instead of yellow, it ought to be perfectly white.

ALCEDO MOLUCCENSIS, Bechst. (*sic*!), *l. c.*, p. 323, New Ireland.

I suppose that "Bechst." is a misprint for "Blyth;" I have already shown that this bird must be called *Alcedo ispidoides*, Less.

RHAMPHOCOCCYX CALORHYNCHUS (Temm.), *l. c.* p. 324, Ceram (!).

Were the specimen or specimens brought home collected in Ceram, or received in Ceram? Till now *R. calorhynchus* was believed to be peculiar to Celebes.

ÆDIRHINUS GLOBIFER, Cab. & Rehnw., *l. c.* p. 326.

Ptilopus (*Ædirhinus*, nov. subgen.) *globifer*, Cab. & Rehnw. Sitzb. Ges. nat. Freunde zu Berlin vom 16. Mai 1876, p. 73.

Have Dr. Cabanis and Reichenow compared the curious bird with *Ptilopus insolitus*, Schleg. Ned. Tijdschr. v. Dierk. i. p. 61, pl. iii. fig. 3? I suppose not, as otherwise they would not have failed to mention the great likeness which there appears to be between their bird and that of Schlegel. *Ptilopus insolitus* also has the base of the upper mandible swollen into a round ball; the colours are very much the same as those of *Æ. globifer*, excepting that it has the smaller and also some of the greater and median wing-coverts and the last remiges, approaching the back, light grey. Schlegel had received his birds as from New Caledonia; but in the *Muséum des Pays-Bas, Columbæ*, p. 16, he has expressed his opinion that perhaps the type specimen of his *Ptilopus insolitus* was nothing else than a monstrous specimen of *Ptilopus humeralis jobiensis*!

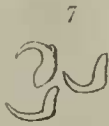
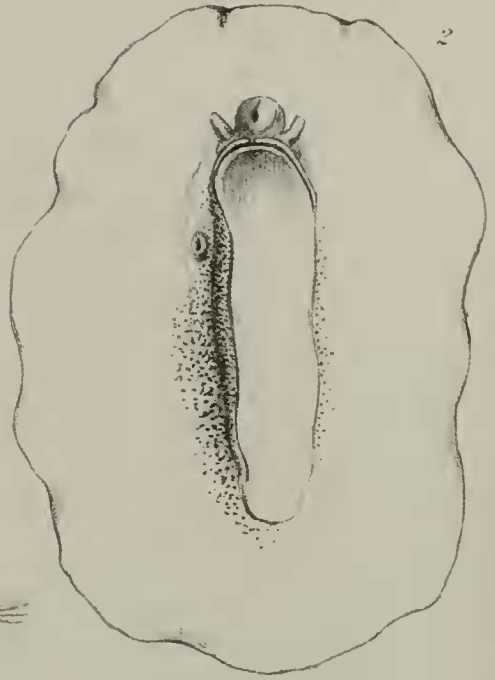
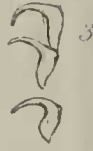
It seems to me very probable that *Ædirhinus globifer* is identical with *Ptilopus insolitus*—a species which I shall have to add to the List of the Pigeons included in the second part of my “*Prodromus Ornithologiæ Papuanæ et Moluccarum*” (*Ann. Mus. Civ. Gen.* ix. pp. 194–208).

8. Revision of the Anthobranchiate Nudibranchiate Mollusca, with Descriptions or Notices of forty-one hitherto undescribed Species. By PHINEAS S. ABRAHAM, M.A., B.Sc., F.R.M.S., F.Z.S.

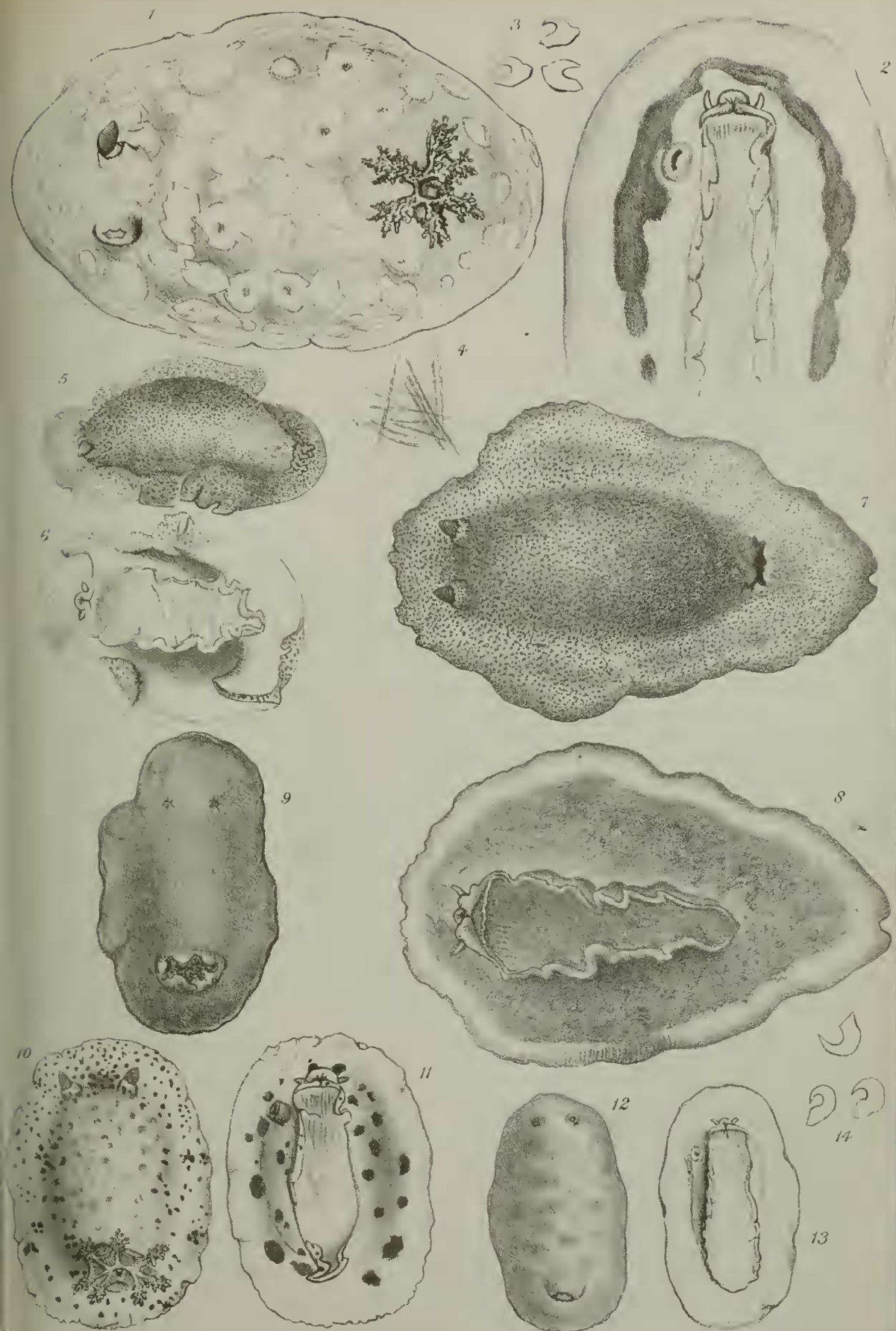
[Received February 20, 1877.]

(Plates XXVII.–XXX.)

Before the time of Cuvier but comparatively little attention had been paid to the naked-gilled Mollusca. Linnæus, in the earlier editions of his ‘*Systema Naturæ*,’ alludes to *Tethys*, as a genus of the order *Zoophyta*; in his 10th edition, 1758, the genera *Doris* (with one species) and *Scyllæa* first appear, and together with *Tethys* are included in the 4th order *Molusca*, of his 6th class, *Vermes*. He also diagnoses what we now believe to be *Eolis papillosa*, under the generic name *Limax*. In the 12th edition four species of *Doris* are scantily characterized, viz. *D. verrucosa*, *D. bilamellata*, *D. lævis*, and *D. argo*. The second and fourth have been identified; but of the remaining two we are not certain: *D. verrucosa* may be *D. verrucosa* of Cuvier; and *D. lævis* may be *D. repanda* of Alder and Hancock. Linnæus at first considered that the circumanal branchiæ of *Doris* were oral tentacula; he rectified his mistake, however, in his 12th edition, after the proper homologies of the parts had been pointed out by Bohadsch in 1761. In the ‘*Fauna Grœnlandica*,’ published by Otto Fabricius in 1780, the foot of a *Doris* is described



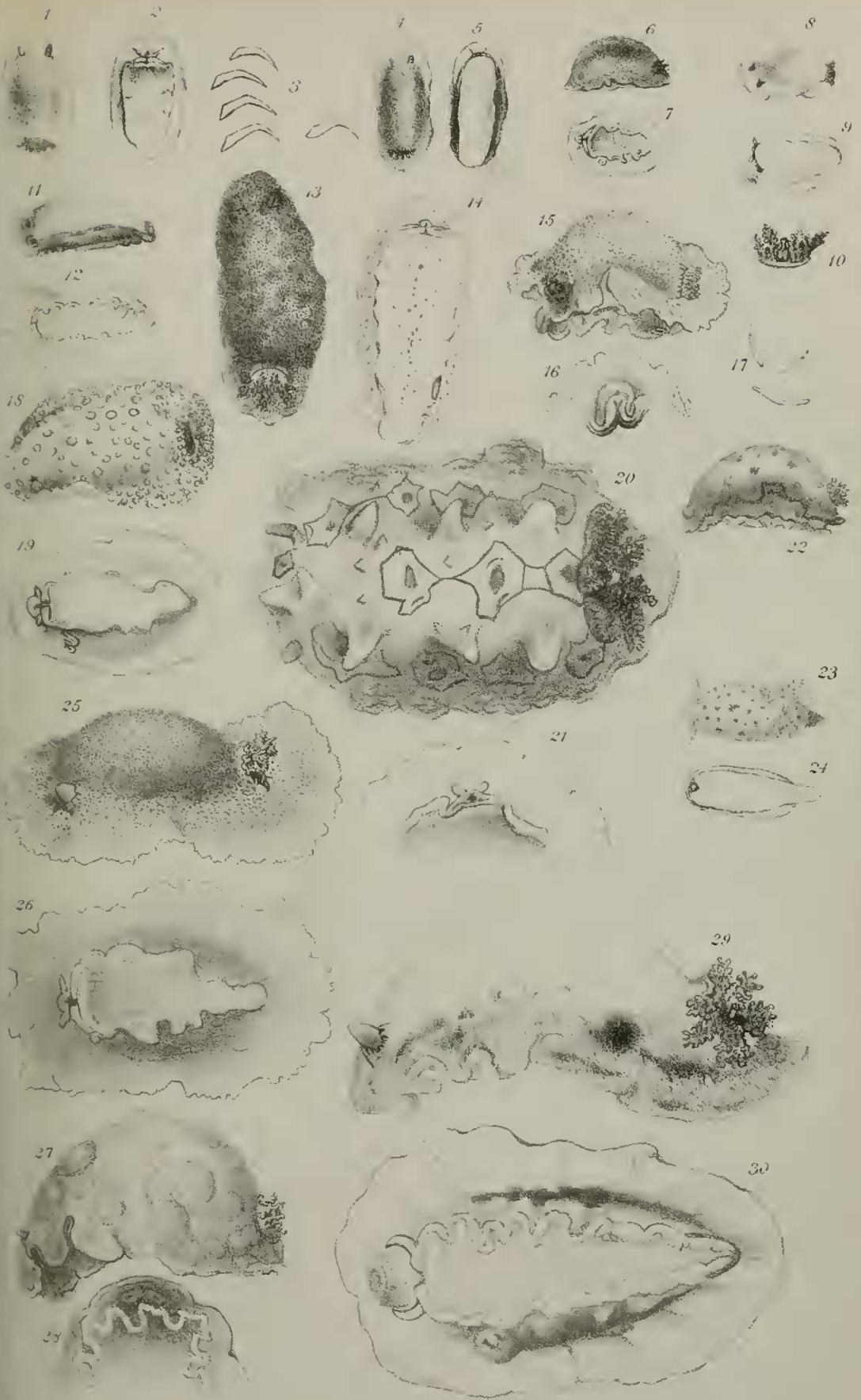




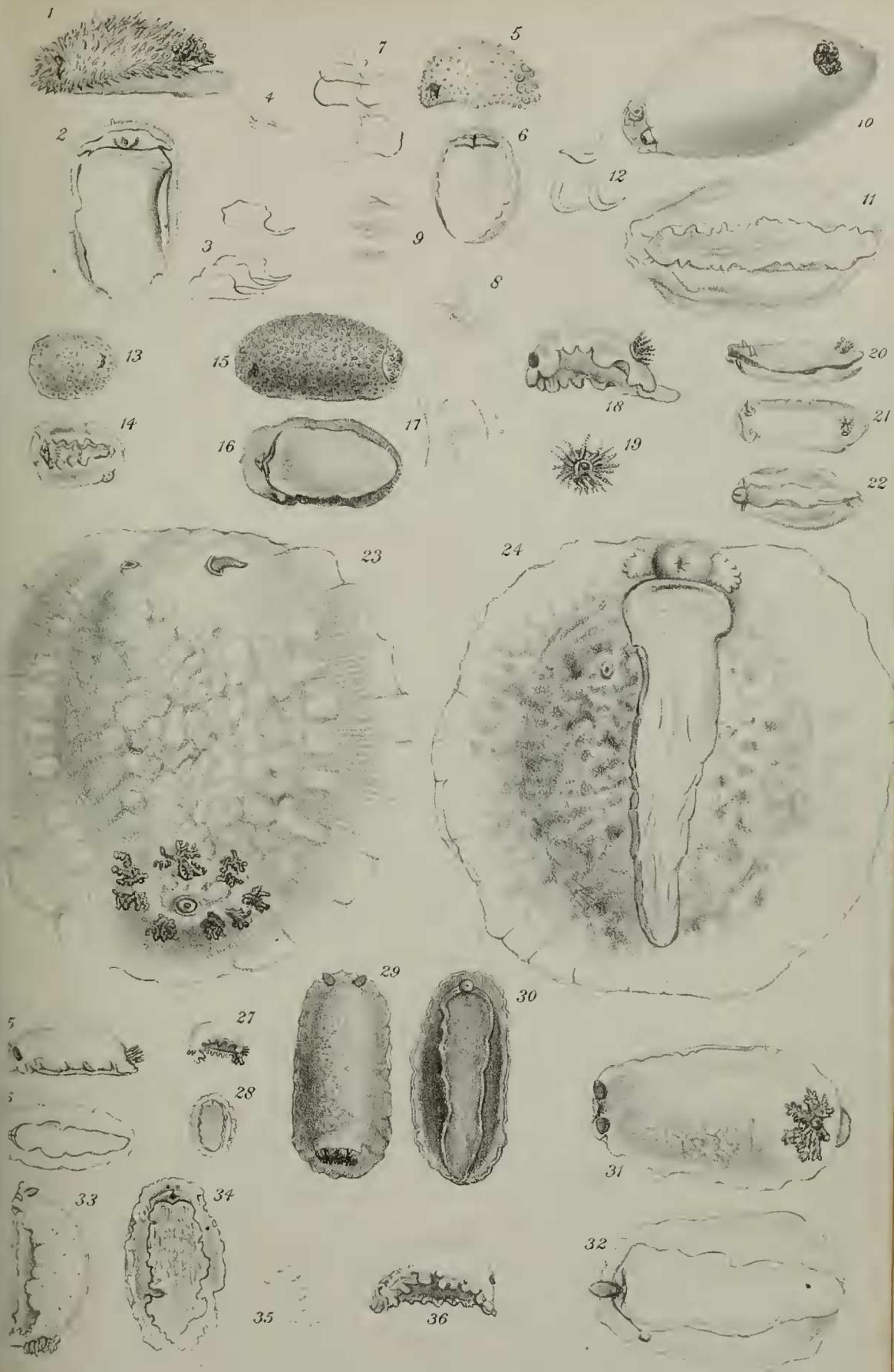
P. A. del J. Smit lith

M & N Hanhart imp









A del. JSmit hth.

NEW NUDIBRANCHIATE MOLLUSCA

M&N Hanhart imp.



as "the worm itself," while the upper lamella, which is really the principal part of the body of the animal, is regarded as a kind of protecting house. The number of species of *Doris* was increased to 12 by O. F. Müller in 1776; and subsequently most of them were figured in his 'Zoologica Danica.' Six of the new species, however, do not correspond with Linnæus's genus, and in fact, belong to other sections of the Nudibranchiata. Gmelin followed Müller, and still further enlarged the genus to include 25 species. The genus *Doris*, thus made to be almost synonymous with what we now understand as the "Nudibranchiata," was reduced by Cuvier in the 'Tableau élémentaire d'Histoire Naturelle,' 1798, to its original Linnæan signification, and shown to include but 7 of the previously enumerated species. In the 'Annales du Muséum' for 1804, Cuvier wrote a classical article on *Doris*, in which he brought forward 13 species, giving more or less lengthened descriptions of several of them, and figures of six. He divided the genus into 'Les *Doris* planes,' and 'Les *Doris* prismatiques.' In 1814, in his memoir on a new classification of Mollusca, De Blainville proposed the name 'Cyclobranches' (Cyclobranchiata) for his 4th order of "Cephalic Mollusca," to include those "which have the organs of respiration symmetrical, hidden or exposed, and placed in a circle on the posterior portion of the body." Cuvier, in 1817, ignored this, and used the same term for the 7th order of the class Gasteropoda, to embrace the Chitons and Patellas. He has been so very generally followed that it would only create confusion now to employ the name in its original meaning. In the same year Cuvier called the whole of the naked-gilled Mollusks "Nudibranches" (Nudibranchiata); and in 1820 Goldfuss, shortly followed by Férussac, named those with the branchiæ surrounding or near the anus on the medio-dorsal line, "Anthobranches" or "Anthobranchiata," the nomenclature now adopted.

From the commencement of this century, the number of known species has been largely increased by scientific voyagers and by home workers. In 1817 Risso described 6 Mediterranean species in the 'Journal de Physique,' a number that he increased to 10 in his 'Histoire Naturelle de l'Europe Méridionale' of 1826. In a monograph, "Ueber das Molluskengeschlecht *Doris*," published in the 'Nova Acta Nat. Cur.' in the latter year, Rapp enumerated 27 forms, among which 6 were new; several of them he figured. Rüppell and Leuckart, two years afterwards, described and figured 12 new species in the 'Atlas zu der Reise im nördlichen Afrika.' Ehrenberg, in 1831, described 15 new varieties in his 'Symbolæ Physicæ;' and this naturalist enunciated a somewhat elaborate classification, founded upon differences in the arrangement of the branchial apparatus of the animals before him. His system has not been found to hold good. In the following year, Quoy and Gaimard, in the 'Voyage de l'Astrolabe,' gave drawings and descriptions of 21 species of Dorididæ, all but three of which were new. They were chiefly from the Malayan, Australian, and Pacific Islands. Other naturalists who have principally increased our knowledge of these Mollusks have been:—D'Orbigny, to whom we owe 12 or 13; Cantraine, who enu-

merated 17 (a few of them new) from the Mediterranean ; Philippi, who recorded 23 from Sicily ; Lovén, who found 18 (5 new) on the Scandinavian shores ; Verany, who described 11 new species, and enumerated 11 others from the Gulf of Genoa, and who afterwards catalogued 23 from the environs of Nice. Kelaart has described 42 from Ceylon ; Angas, 21 from New South Wales ; Alder and Hancock, 32 from India and Ceylon ; Gould, 9 species from Eastern North America, and 14 from the Pacific Isles ; Pease, 28 from the same part of the world. Recently Bergh has figured, described, or named about 32 species of Anthobranchiate Nudibranchiata from the Philippine archipelago. In addition, De Blainville, Leach, Gray, Fischer, Mörch, and several other naturalists have more or less studied the group, and have from time to time added species to the list. With the exception of Cuvier, Delle Chiaje, Johnston, Alder, Hancock, Embleton, and Bergh, few observers have examined the anatomy of this section of the order.

Between the years 1845 and 1855, appeared Alder and Hancock's 'Monograph of the British Nudibranchiate Mollusca.' This is by far the most important work that has ever been written on the naked-gilled Mollusca. In it 39 species of our native Anthobranchiata are included, and 29 of them minutely described and beautifully figured. Twenty-two were new or but recently described by the authors ; and, for the first time, something like a philosophical classification of the Nudibranchiata was proposed. Upon that arrangement is based, in a great measure, the plan adopted in the present paper.

The Anthobranchiate naked-gilled Mollusks are found all over the globe, frequenting, for the most part, rocky shores between high- and low-water mark. Some, however, have been dredged from comparatively deep water, or have been found on floating seaweed. They appear to be more numerous, larger, and with more brilliant colours in the warmer seas, especially in those of the eastern hemisphere. Some of them have a wonderfully wide "habitat." In the British Museum there are specimens of the common European *Doris tuberculata*, which were obtained from New Zealand and from Vancouver Island. *Lamellidoris bilamellata*, also one of the commonest of North-European Dorididæ, is found on both coasts of North America ; and several other instances might be given. The American forms are, as a rule, few, small, and obscure in colouring. The small, brightly coloured Chromodorides are all inhabitants of warm seas ; while the Polycerides have principally been discovered on the colder shores. The Indian and Pacific Oceans seem to be the head quarters of the remarkable tongueless Doridopsidæ ; but a few have extended so far north as the Mediterranean.

Order NUDIBRANCHIATA, Cuvier, 1817.

Doris, Müller, 1776.*Dermobranches* (*Dermobranchiata*) à corps nu, Dumeril, 1806.*Les Tritoniens* (*Tritoniacea*), Lamarck, 1819.*Hydrobranches* (part of), Lamarck, 1819.*Gymnobranchia*, Schweigger, 1820.*Notobranchia* (part of), Bronn, 1862.

Opisthobranchiate, hermaphrodite Mollusca, with the branchiæ, if present, more or less exposed on the back or on the sides ; without shell when adult.

Suborder I. ANTHOBRANCHIATA, Goldfuss, 1820.

Cyclobranches (*Cyclobranchiata*), De Blainville, 1814.*Pygobranchia*, Gray, 1821.*Dorididæ*, Leach, 1820.*Dorides*, Férussac, 1821.*Urobranchia*, Latreille, 1825.*Doridiæ*, Menke, 1828.*Doridæ*, D'Orbigny, 1837.*Doridiacea*, Philippi, 1853.*Acanthobranchiata*, Alder and Hancock, 1855.

The branchiæ more or less surrounding the anus upon the medio-dorsal line.

Fam. I. DORIDIDÆ, Ald. & Hanc. 1855.

Doridini, Ehr. 1831.*Doris bombées et planes*, Cantr. 1840.*Dorina*, Macgillivray, 1843.*Doridinæ*, Ald. & Hanc., 1845.*Doridina*, Gray, 1847.

Mantle (*nothæum*) large, without marginal appendages ; skin generally very spiculose ; dorsal tentacles (*rhinophora*) laminate and retractile within cavities.

The Dorididæ may be classed under two sections or subfamilies :—

- § 1. Those with the oral tentacles free ; and with the odontophore broad and bearing numerous spines in each transverse row. (PLATYGLOSSÆ.)
- § 2. Those with the oral tentacles united into an oral veil ; and with the odontophore narrow and strap-shaped, and bearing but few spines in each transverse row. (LEPTOGLOSSÆ.)

§ 1. PLATYGLOSSÆ.

Genus DORIS, Linnæus, 1758.

Argus, Bohadsch.

Body depressed, or subconvex ; integument spiculose ; mantle often tuberculate, covering the head and the foot ; branchiæ plumose or ramose, united at the base, and retractile with the anus into a common pallial cavity ; mouth inferior, with two distinct oral ten-

tacles (rarely absent); odontophore broad, with numerous spines in each transverse row.

The genus is very similarly characterized in the Appendix to Messrs. Alder and Hancock's monograph. In the text of that work, however, "Doris" is made to include *Doris* proper, *Lamellidoris*, and *Acanthodoris* as sections. There can be little doubt that the internal and external distinctions of the three groups are really sound generic differences.

The following subdivisions of the restricted genus *Doris* were proposed by Alder and Hancock;—

- "a. Dorsal tentacles conical; oral tentacles tubercular; cloak with hard spiculate tubercles. Lingual spines simple, uniform; no central spine.
Type *D. tuberculata*, Cuv.
- "b. Dorsal tentacles conical; oral tentacles tubercular; cloak with soft tubercles. Lingual spines long, linear, obtuse, denticulated; no central spine Type *D. zetlandica*, A. & H.
- "c. Dorsal tentacles clavate; oral tentacles linear; lingual spines of two forms; no central spine Type *D. johnstoni*, A. & H.
- "d. Dorsal tentacles linear; oral tentacles angular, flattened. Lingual spines denticulated; a small central spine. Mouth with a spinous collar.
Type *D. repanda*, A. & H.
- "e. Dorsal tentacles conical, partially retractile, and protected by leaf-like appendages; oral tentacles linear or tubercular; branchiæ linear, simply pinnate; cloak with large tubercles. Lingual spines simple, uniform; no central spine. *Glossodoris*, Ehr. *D. verrucosa*, Cuv.
- "f. Dorsal tentacles conical; oral tentacles leaf-shaped; branchiæ each with several pinnate rays branching from a foot-stalk; cloak very large, flat and coriaceous. Lingual spines? *Actinodoris*, Ehr. *D. cruenta*, Qu. & G.
- "g. ? With only two tentacles; branchiæ in front of anus, not surrounding it. Lingual spines? *Actinocyclus*, Ehr. *A. vetulinus*, Ehr.
- "h. ? Dorsal tentacles truncated; branchiæ small; cloak large, carinated on the back. Lingual spines? *Atagema*, Gray..... *D. carinata*, Qu. & G."

So far as we at present know, perhaps 9 species may be referred to division *a*, one to division *b*, four to *c*, and two to *d*. Division *e* corresponds with the genus "*Doridigitata*," D'Orbigny, or "*Glossodoris*," Gray (*non* Ehrenberg), and includes four species. The group *f*, supposed to be synonymous with "*Actinodoris*," Ehr., can scarcely be maintained; for many of the species which have been referred to it are probably Doridopsidæ, and *D. cruenta*, which Alder and Hancock have taken for the type, undoubtedly belongs to the "*Asteronotus*" group. Division *h* contains but one species. This arrangement gives no place to a large number of Dorides which have the common characters of a depressed coriaceous body, wide and granular mantle, rhinophores clavate and retractile in denticulate-edged sheaths, oral tentacles linear or slightly flattened, branchiæ six, retractile in a cavity protected by six lobular marginal processes, lingual spines simple, uniform, none central—and the type of which is *Asteronotus hemprichii*, Ehr. After using all the above sections, we should still have left some 90 species or so, which either do not fit into any of them, or which have been too scantily characterized for us to determine their position. A great many of the published descriptions of these animals are so meagre and superficial, often

merely the evanescent colours being given, that it is sometimes a matter of doubt whether they belong to the genus at all. Such being the case, no accurate synoptical table of the species can be formed in the present state of our knowledge.

*List of Species*¹.

1. DORIS HEMPRICHII.

Asteronotus hemprichii, Ehrenberg, Symb. Phys., An. evert. excl. insect. (1831).

Hab. Red Sea (Massowah).

2. D. CRUENTA, Quoy & Gaimard, Voy. de l'Astrol. Zool. ii. p. 260, pl. 18. f. 5-7 (1832).

Actinodoris cruenta, Gray.

Doris (Argus) cruenta, Mörch.

Hab. New Guinea.

3. D. CRUENTATA.

Asteronotus cruenta, "Alder, MS.," Gray, Fig. Moll. An. iv. t. 226. f. 2 (1850).

Hab. Torres Straits.

4. D. ANGUSTIPES.

Doris (Argus) angustipes, Mörch, Journ. de Conchyl. 3^e ser. iii. p. 32 (1863).

Hab. St. Thomas.

5. D. SOLEA, Cuvier, Ann. du Mus. iv. p. 465, pl. 74. f. 1, 2 (1804).

Doris semelle, De Blainville.

Hab. Mauritius.

6. D. SCABRA, Cuv. *l. c.* p. 466.

Actinodoris scabra, Gray.

Hab. Timor, Tonga, New Guinea.

7. D. FORSTERI, De Blainv. Bull. Sc. Soc. Phil. année 1816, p. 94.

Hab. Atlantic.

8. D. PUNCTATA, Quoy & Gaim. *l. c.* p. 262, pl. 18. f. 3-10.

Actinodoris punctata, Gray.

Hab. New Zealand.

¹ I commenced by placing the species next to each other according to their affinities; but for reasons just alluded to, this cannot always be done; hence, except in some cases, it does not follow in this and in the following lists, that the forms arranged close together are always those most nearly resembling one another.

9. DORIS PUNCTIFERA.

Doris punctata, D'Orbigny, Hist. Nat. des îles Canar. ii. Mollusques, p. 38, pl. 4. f. 1-5 (1857).

Doris orbigny, H. and A. Adams.

Hab. Teneriffe.

10. D. PUNCTUOLATA, D'Orb. Voy. dans l'Amér. mérid. v. p. 187, pl. 16. f. 4-6 (1836).

Hab. Valparaiso.

11. D. CANARIENSIS, id. Hist. Nat. îles Can. ii. p. 39.

Hab. Teneriffe.

12. D. FORMOSA, Alder and Hancock, Trans. Zool. Soc. v. p. 116, pl. 29. f. 1-3 (1864).

Hab. Madras coast.

13. D. ELLIOTI, id. *l. c.* p. 116, pl. 28. f. 1, 2.

Hab. Coromandel coast.

14. D. STRIATA, Kelaart, Ann. & Mag. Nat. Hist. 3rd ser. iii. p. 203 (1859).

Hab. Madras, Ceylon.

15. D. LOCKYERANA, id. Ann. Nat. Hist. 3rd ser. iv. p. 268 (1859).

Hab. Ceylon.

16. D. PARDALIS, Ald. and Hanc. *l. c.* p. 117, pl. 28. f. 3.

Hab. Madras.

17. D. CONCINNA, Ald. and Hanc. *l. c.* p. 118, pl. 28. f. 4-6.

Hab. Madras.

18. D. SPIRACULATA, Gould, U.S. Expl. Exp. "Moll. &c." p. 300, pl. 23. f. 395 (1852).

Actinodoris spiraculata, H. and A. Adams.

Hab. Feejee Islands.

19. D. ARGO, Linnæus, Syst. Nat. 12th ed. p. 1083 (1767).

Argus, Bohadsch, 1761; *Doris rubra*, Risso; *Doris argus*, Rapp.

Hab. Mediterranean.

20. D. PERUVIANA, D'Orb. *l. c.* p. 188, pl. 15. f. 7-9.

Doriopsis peruviana, Bergh.

Hab. Lima.

21. D. MACULOSA, Cuv. *l. c.* p. 466.

Actinodoris maculosa, Gray.

Hab. Australia; Vanikoro.

22. *DORIS CŒLESTIS*, Kel. Ann. Nat. Hist. 3rd ser. iii. p. 293 (1859).

Hab. Ceylon.

23. *D. SANGUINEA*.

Doris (Asteronotus) sanguinea, Cooper, Proc. Cal. Ac. Nat. Sc. ii. p. 204 (1862).

Hab. W. North America (San Diego Bay).

24. *D. ALABASTRINA*.

Doris (Asteronotus?) alabastrina, id. *l. c.* p. 204.

Hab. W. North America (San Diego Bay).

25. *D. CORIACEA*, sp. nov. (Plate XXVII. figs. 1-4.)

Hab. Seychelles; Sir. C. Hardy's Isles; S. Africa.

26. *D. TABULATA*, sp. nov. (Plate XXVII. fig. 9.)

Hab. —?

27. *D. INFRAMACULATA*, sp. nov. (Plate XXVII. figs. 5-7.)

Hab. Amboina.

28. *D. INFRANÆVATA*, sp. nov. (Plate XXVII. fig. 8.)

Hab. Mediterranean.

29. *D. HEPATICA*, sp. nov. (Plate XXVIII. fig. 9.)

Hab. Ricinola.

30. *D. MABILLA*, Bergh (in sched.). (Plate XXVIII. figs. 1-4.)

Hab. Seychelles, Samoa.

31. *DORIS ARROGANS*, Bergh, figured in Semper's Reise im Arch. phil. Bd. ii. Heft 9, t. 41. f. 2 (1875).

Hab. Philippine seas.

32. *D. SUBTUMIDA*, sp. nov. (Plate XXVII. figs. 10, 11.)

Hab. Mediterranean.

33. *D. SPECIOSA*, sp. nov. (Plate XXVIII. figs. 10, 11.)

Hab. Amboina.

34. *D. CONSTANTIA*, Kel. *l. c.* p. 298.

Hab. Ceylon.

35. *D. VIPERINA*, id. *l. c.* p. 299.

Hab. Ceylon.

36. *D. STRAGULATA*, sp. nov. (Plate XXVIII. figs. 7, 8.)

Hab. —?

37. *D. TUBERCULATA*, Cuv. *l. c.* p. 469, pl. 74. f. 5.

Doris argo, Pennant; *Doris britannica*, Leach; *Doris montagui*,

Leach ; *D. pseudo-argus*, Rapp ; *Doris argus*, Stark ; *Doris mera*, Ald. & Hanc. ; *Dendrodoris tuberculata*, Gray ; *Actinocyclus tuberculatus*, H. & A. Adams.

Hab. Northern European coasts ; Western North America (Victoria) ; New Zealand.

38. *DORIS FLAVIPES*, Leuckart, Brev. An. quor. Descr. p. 14 (1828).

Hab. Mediterranean.

39. *D. MONTEREYENSIS*, Cooper, *l. c.* p. 205.

Hab. Californian coast.

40. *D. FONTAINII*, D'Orb. *l. c.* p. 189, pl. 15. f. 1-3.

Doriopsis fontainii, Bergh.

Hab. Chilian coast.

41. *D. FLAMMEA*, Ald. & Hanc. Mon. Br. Nud. Moll. p. 41, and pt. i. fam. 1, pl. 4 (1844).

Doris argus, Forbes ; ? *Doris rubra*, Risso ; ? *Doris argus*, Boucharde-Chantereux.

Hab. British and ? French coasts.

42. *D. CRUCIS*.

Doris (Dendrodoris) crucis, "Oersted in sched.," Mörch, *l. c.* p. 33.

Hab. St. Thomas ; Santa Cruz.

43. *D. CRYPTOSTOMATA*, Mörch.

Doris tuberculata, "Cuv.," Andonin in Savigny's Descr. de l'Égypte (1809).

Hab. Egypt.

44. *D. VESTITA*, sp. nov. (Plate XXVIII. figs. 5, 6.)

Hab. Straits of Magellan.

45. *D. MURREA*, sp. nov. (Plate XXVIII. figs. 12-14.)

Hab. Mauritius.

46. *D. ZETLANDICA*, Ald. & Hanc. *l. c.* p. 42, and Append. p. i. (1855).

Hab. Shetland Isles ; Norway.

47. *D. MILLEGRANA*, id. *l. c.* p. 41, and Append. p. i.

Hab. South coast of England ; St. Vincent.

48. *D. JOHNSTONI*, id.

Doris obvelata, Johnst. Ann. & Mag. Nat. Hist. i. p. 52 (1838).

Hab. British Isles.

49. *DORIS COCCINEA*, "Montagu, MS.," Forbes, Rep. Moll. and Rad. of Ægean Sea, in Brit.-Assoc. Rep. for 1843, p. 133.

Doris rubra, D'Orb.

Hab. South coast of England; France; Ægean Sea.

50. *D. TESTUDINARIA*, Risso, Journ. de Phys. lxxxvii. p. 370 (1818).

Doris planata, Ald. & Hanc.

Hab. Mediterranean and N. Europe.

51. *D. GRANULOSA*, sp. nov. (Plate XXIX. figs. 1-3.)

Hab. New Zealand.

52. *D. LONGULA*, sp. nov. (Plate XXIX. figs. 4, 5.)

Hab. New Zealand.

53. *D. REPANDA*, Ald. & Hanc. Ann. & Mag. Nat. Hist. ix. p. 32 (1842); figured, Monograph &c. Fam. 1, pl. 6.

Doris lævis, Fleming; *Doris obvelata*, Lov.; *Doris planulata*, Stimpson; ? *Doris lævis*, Linnæus; ? *Doris bilamellata*, Gravenhorst; ? *Doris marginata*, Montagu.

Hab. N. Europe; Eastern N. America (Grand Manan).

54. *D. GLABRA*, Friele & Hansen, Bidr. til Kundsk. om de Norske Nudibr. p. 2 (1875).

Hab. Norway.

55. *D. RARIPILOSA*, sp. nov. (Plate XXIX. figs. 29, 30.)

Hab. — ?

56. *D. MUSCULA*, sp. nov. (Plate XXIX. figs. 6, 7.)

Hab. New Zealand.

57. *D. ANALAMPULLA*, sp. nov. (Plate XXIX. figs. 8-10.)

Hab. Australia.

58. *D. CUCULLATA*, sp. nov. (Plate XXIX. figs. 11, 12.)

Hab. — ?

59. *D. LABIFERA*, sp. nov. (Plate XXIX. figs. 13, 14.)

Hab. Seychelle Islands.

60. *D. LANUGINATA*, sp. nov. (Plate XXIX. figs. 15-17.)

Hab. New Zealand.

61. *D. COLLATATA*, sp. nov. (Plate XXIX. figs. 25, 26.)

Hab. Port Essington.

62. *D. PUSTULATA*, sp. nov. (Plate XXIX. figs. 18, 19.)

Hab. Australia.

63. *DORIS PUSTULOSA*, Cantraine, Malac. Méd. et lit. p. 60, pl. A. f. 5 (1840).

Hab. Mediterranean Sea (Naples).

64. *D. SORDIDA*, Rüppell & Lenckart, Atl. zu der Reise im nördl. Afrika, N. wirb. Th. des roth. Meers, p. 34, t. 10. f. 3 (1828).

Hab. Red Sea (Massowah).

65. *D. SORDIDATA*.

*Doris sordida*¹, Quoy & Gaimard, Voy. de l'Astr. Zool. ii. p. 266, pl. 19. figs. 12, 13 (1832).

Hab. Mauritius.

66. *D. SCHEMBRII*, Verany, Cat. d. An. d. g. d. Genov. &c. pp. 17 & 21 (1846).

Hab. Gulf of Genoa; Nice.

67. *D. PORRI*, Ver. *l. c.* pp. 17 & 22.

Hab. Gulf of Genoa; Nice.

68. *D. VILLOSA*, Ald. & Hanc. Trans. Zool. Soc. v. p. 119, pl. 33. f. 1 (1866).

Hab. Coast of Madras.

69. *D. EXCAVATA*, Pease, Proc. Zool. Soc. 1860, p. 26.

Hab. Sandwich Islands.

70. *D. ECHINATA*, id. *l. c.* p. 27.

Hab. Sandwich Islands.

71. *D. SCABRIUSCULA*, id. *l. c.* p. 27.

Hab. Sandwich Islands.

72. *D. PILOSA*, id. *l. c.* p. 27.

Hab. Sandwich Islands.

73. *D. GRANDIFLORIGER*.

D. grandiflora, Pease, *l. c.* p. 30.

Hab. Sandwich Islands.

74. *D. SETOSA*, Pease, *l. c.* p. 26.

Hab. Sandwich Islands.

75. *D. VENOSA*, Quoy & Gaim. *l. c.* p. 274, pl. 20. figs. 15, 16.

Hab. Flacq.

76. *D. AREOLIGERA*.

*D. areolata*², Ald. & Hanc. *l. c.* p. 119, pl. 30. figs. 1 & 3.

Hab. Coast of Madras.

¹ It is doubtful whether this be not the same as Rüppell & Leuckart's species.

² According to Alder and Hancock, this resembles *D. spongiosa*, Kel. The name was previously employed by Stimpson.

77. *DORIS RUSTICATA*, Ald. & Hanc. *l. c.* p. 120, pl. 30. figs. 4, 5.
Hab. Coast of Madras.

78. *D. CASTANEA*, Kelaart, Ann. Nat. Hist. 3rd ser. iii. p. 303 (1859)
Hab. Ceylon and coast of Madras.

79. *D. NIVEA*, Kel. *l. c.* p. 296 (1859).
Hab. Coast of Ceylon.

80. *D. MARMORATA*, id. *l. c.* p. 296.
Hab. Coast of Ceylon.

81. *D. VERMICELLI*, Gould, Unit.-St. Expl. Exp. xii. p. 293, pl. 22. fig. 387 (1852).
Hab. Valparaiso.

82. *D. LUTEOLA*, "Couthouy, MS.," Gould, *l. c.* p. 295, pl. 22. fig. 389.
Hab. Eastern N. America (Burnt Island, Orange Harbour).

83. *D. PLUMULATA*, "Couthouy, MS.," Gould, *l. c.* p. 294, pl. 22. fig. 388.
Hab. E. coast of N. America (Orange Harbour).

84. *D. VARIOLATA*, D'Orb. Voy. d. l'Am. MÉR. v. p. 186, pl. 16. figs. 1-3 (1836).
Hab. Valparaiso.

85. *D. CHILENSIS*, id. *l. c.* p.
Hab. Valparaiso.

86. *D. HUMBERTI*, Kel. *l. c.* vol. iv. p. 268 (1859).
Hab. Ceylon.

87. *D. RETICULATA*, "Schultz," Philippi, En. Moll. Sic. i. p. 105 (1836).
Hab. Sicily.

88. *D. PETECHIALIS*, Gould, *l. c.* p. 296, pl. 22. f. 395.
Hab. Honolulu.

89. *D. PAPILLOSA*, Kel. *l. c.* iii. p. 297.
Hab. Ceylon.

90. *D. RUFOPUNCTATA*, id. *l. c.* p. 297.
Hab. Ceylon.

91. *D. OSSIOSA*, id. *l. c.* p. 298.
Hab. Ceylon and Madras coast.

92. *DORIS TRISTIS*, Ald. & Hanc. *l. c.* p. 121, pl. 30. f. 6, 7.
Hab. Coast of Madras.
93. *D. EXANTHEMATA*, Kel. *l. c.* p. 300.
Hab. Ceylon.
94. *D. VARIABILIS*, id. *l. c.* p. 300.
Hab. Ceylon.
95. *D. LEOPARDI*, id. *l. c.* p. 294.
Hab. Ceylon.
96. *D. SUBLUTEA*.
D. luteola, id. *l. c.* p. 299.
Hab. Ceylon.
97. *D. INTECTA*, id. *l. c.* p. 302.
Hab. Ceylon.
98. *D. CORRUGATA*, id. *l. c.* p. 303.
Hab. Ceylon.
99. *D. BELLICOSA*, id. *l. c.* p. 303.
Hab. Ceylon.
100. *D. PICTA*, id. *l. c.* p. 303.
Hab. Ceylon.
101. *D. FRAGILIS*, Ald. & Hanc. *l. c.* p. 118, pl. 28. f. 7, 8.
Hab. Madras coast.
102. *D. LANUGINOSA*, Kel. *l. c.* p. 302.
Hab. Ceylon.
103. *D. FUNEBRIS*, Kel. *l. c.* p. 293, and Ald. & Hanc. *l. c.* pl. 30. f. 9, 10.
Hab. Ceylon and Coromandel coast.
104. *D. MARMORATA*, Risso, Journ. de Phys. lxxxvii. p. 369 (1818).
Hab. Mediterranean (Nice).
105. *D. LUTEA*, id. *l. c.* p. 369.
Hab. Mediterranean (Nice).
106. *D. RISSÆ*, Verany, *l. c.* pp. 16 & 21 (1846).
Hab. Gulf of Genoa; near Nice.
107. *D. SISMONDÆ*, id. *l. c.* pp. 16 & 21.
Hab. Gulf of Genoa; near Nice.

108. *DORIS HISPIDA*, D'Orb. *l. c.* p. 188, pl. 15. f. 4-6.
Hab. Valparaiso.
109. *D. TOMENTOSA*, Cuv. *l. c.* p. 470.
Hab. Valparaiso.
110. *D. TOMENTIFERA*.
D. tomentosa, Philippi, En. Moll. Sic. i. p. 104 (1836), ii. t. 19.
f. 9.
Hab. Mediterranean.
111. *D. ALBOPUNCTATA*, Cooper, *l. c.* iii. p. 58 (1863).
Hab. Mediterranean.
112. *D. PANTHERINA*, Angas, Journ. de Conch. xi. p. 47, pl. 4.
f. 5 (1864).
Hab. New South Wales.
113. *D. VARIA*.
D. variabilis, id. *l. c.* p. 44, pl. 4. f. 1.
Hab. New South Wales, Port Jackson.
114. *D. ARBUTUS*, id. *l. c.* p. 47, pl. 4. f. 4.
Hab. New South Wales.
115. *D. ASPERSA*, Gould, *l. c.* p. 304, pl. 25. f. 399.
Hab. Paumotu Islands.
116. *D. SMARAGDINA*, id. *l. c.* p. 296, pl. 22. f. 390.
Hab. Paumotu Islands.
117. *D. SCHMELTZIANA*, Garrett; Bergh, Jouru. des Mus. Godeff.
Heft viii. p. 96, t. 8. f. 34-37.
Hab. Paumotu Islands.
118. *D. VILLOSA*, Pease, Am. Journ. Conch. vii. p. 11, pl. 3. f. 1
(1872).
Hab. Huaheine.
119. *D. CINEROSA*, id. *l. c.* p. 13, pl. 5. f. 1.
Hab. Huaheine.
120. *D. NUBILOSA*, id. *l. c.* p. 13, pl. 6. f. 1.
Hab. Huaheine.
121. *D. BRUNNEA*, Bergh, figured in Semper's Reise im Arch.
philipp. Bd. ii. Heft ix. Taf. 41. f. 4 (1875).
Hab. Philippine sea (?).
122. *D. CARINA*.
D. carinata, Ald. & Hanc. *l. c.* p. 122, pl. 29. f. 5, 6.
Hab. Coast of Madras.

123. *DORIS GIBBEROSA*, Stimpson, Proc. Ac. of Nat. Sc. Philad. 1855, p. 379.

Hab. China.

124. *D. OLIVACEA*, id. *l. c.* p. 380.

Hab. Loo Choo.

125. *D. ROGERSII*, id. *l. c.* p. 380.

Hab. Kikaisima.

126. *D. AREOLATA*, id. *l. c.* p. 380.

Hab. Boninsima.

127. *D. INDURATA*, id. *l. c.* p. 380.

Hab. China.

128. *D. LATENS*, id. *l. c.* p. 380.

Hab. Loo Choo.

129. *D. APICULATA*, Ald. & Hanc. *l. c.* p. 122, pl. 30. f. 8.

Hab. Coast of Madras.

130. *D. INCII*, "Alder, MSS.," Gray, Fig. Moll. An. iv. p. 103, t. 226. f. 1.

Hab. Torres Straits.

131. *D. VERRUCOSA*, Cuv. *l. c.* p. 467, pl. 75. f. 4-7.

Doridigitata verrucosa, D'Orb.; *Glossodoris verrucosa*, Gray.

Hab. Mauritius; the Mediterranean.

132. *D. BERTHELOTI*.

Doridigitata bertheloti, D'Orb. Hist. Nat. des îles Canar. ii. "Moll." p. 40, pl. 4. f. 5-8 (1837); *Glossodoris bertheloti*, Gray.

Hab. Canary Islands.

133. *D. D'ORBIGNYI*.

Glossodoris d'orbignyi, "D'Orb." Gray, *l. c.* p. 102, t. 216. f. 2 (1850).

Hab. Canary Islands.

134. *D. BISCAYENSIS*, Fischer, Journ. de Conch. xx. p. 6 (1872).

Hab. Coast of France (Gironde).

135. *D. SEPOSITA*, id. *l. c.* p. 8.

Hab. Coast of France (Gironde).

136. DORIS CARINATA, Quoy & Gaim. *l. c.* p. 254, pl. 16. f. 10-14.

Atagema carinata, Gray.

Hab. New Zealand.

137. D. PRÆTENERA, sp. nov. (Plate XXX. figs. 10-12.)

Hab. New South Wales.

138. D. MOLLIPUSTULATA, sp. nov. (Plate XXX. figs. 13, 14.)

Hab. —?

139. D. PECULIARIS, sp. nov. (Plate XXX. figs. 15-17.)

Hab. South Australia (Port Lincoln).

140. D. ARIPONENSIS, Kel. *l. c.* p. 268.

Hab. Ceylon.

141. D. PELLUCIDA, Risso, Hist. Nat. de l'Eur. MÉR. iv. p. 33 (1826).

Hab. Mediterranean.

142. D. GUTTATA¹, id. *l. c.* p. 33.

Hab. Mediterranean.

143. D. GRANDIFLORA, Rapp, *l. c.* p. 520, pl. 27. f. 5.

Dendrodoris grandiflora, Gray; *Actinocyclus grandiflora*, Adams.

Hab. Mediterranean.

144. D. SETIGERA, Rapp, *l. c.* p. 521, pl. 26. f. 8.

D. rappii, Cantr.; *Dendrodoris setigera*, Gray.

Actinocyclus setiger, Adams.

Hab. Mediterranean.

145. D. FUMATA, Rüpp. & Leuck. *l. c.* p. 29, t. 8. f. 2.

Hab. Red Sea.

146. D. "ARGUS, n. sp.," Mörch, Vid. Medd. for 1871, p. 25.

Hab. Danish Seas.

147. D. PAPILLATA, Pease, Proc. Zool. Soc. 1860, p. 30.

Hab. Sandwich Islands.

148. D. NUCLEOLA, id. *l. c.* p. 29.

Hab. Sandwich Islands.

149. D. ? WELLINGTONENSIS, sp. nov. (Plate XXIX. figs. 27, 28.)

Hab. New Zealand.

150. D. ? DELICATA, sp. nov. (Plate XXX. figs. 20-22.)

Hab. Chilian coast (Chiloe).

¹ Philippi considers that this and the ensuing two species may be varieties of *D. limbata*, in which case they must be Doridopsidæ.

151. DORIS? CEREBRALIS, Gould, *l. c.* p. 298, pl. 23. f. 393.

Hab. Feejee Islands.

152. D.? LILACINA, id. *l. c.* p. 297, pl. 22. f. 392.

Hab. Honolulu, Oahu.

153. D? CHRYSODERMA, Angas, *l. c.* xii. p. 46, pl. 4. f. 3.

Hab. Port Jackson.

154. D.? ORNATA.

1). (*Dendrodoris*) *ornata*, Ehr. *l. c.*

Hab. Red Sea.

155. D.? FRAGILIS.

Actinocyclus (?) *fragilis*, id. *l. c.*

Hab. Red Sea.

156. D.? ERINACEA.

Goniodoris erinaceus, Crosse, Journ. de Conch. xii. p. 57, pl. 5. f. 5 (1864); *Chromodoris erinaceus*, Bgh.

Hab. Port Jackson.

157. D.? RETICULOSA.

Goniobranchus reticulata, Pease, Am. Journ. Conch. ii. p. 205, pl. 14. f. 1 (1866).

Hab. Pacific Islands.

Genus ANGASIELLA, Crosse, 1864.

"Body elongate, rounded in front, attenuated and produced into a point behind; mantle everywhere covering the head and the foot; dorsal tentacles 2; subclavate; branchiæ plumose, few, and placed before the anus, a little behind the middle of the back." (*Crosse.*)

As M. Crosse has told us nothing about the retractility of the branchiæ or the condition of the oral tentacles, odontophore &c., we cannot be certain of the position of this genus.

1. ANGASIELLA EDWARDSI, Crosse, Journ. de Conchyl. xii. p. 49, pl. 4. f. 9.

Hab. Port Jackson.

Genus KENTRODORIS, Bergh, 1876.

"Mantle broad, soft, with the upper side everywhere minutely granular; rhinophores retractile; tentacles conical; branchiæ retractile, the plumes tripinnate; podarium broad, the margin in front deeply grooved, with the upper lip veliform and deeply emarginate; rounded behind; no buccal armature; no median tooth, the lateral ones uncinatæ. Penis armed with a spine." (*Bergh.*)

1. K. RUBESCENS, Bgh.; Semper, Reise in Arch. 2^{te} Bd. Heft x. 1876, p. 413, T. 33. f. 8, T. 49. f. 14-19, T. 50. f. 1-8.

Hab. Mare Palaense (Aibukit).

2. *KENTRODORIS GIGAS*, Bgh. *l. c.* p. 419, T. 50. f. 9-23, T. 51. f. 1-5.

Hab. Philippine sea.

3. *K. ANNULIGERA*, Bgh. *l. c.* p. 423, T. 41, f. 1, T. 52. f. 3-16.

Hab. Philippine sea.

Genus *CHROMODORIS*, Ald. & Hanc. 1855.

Doriprismatica, O'Orbigny, 1837 (part of).

Goniodoris, Gray, 1850 (part of).

Goniobranchus, Pease, 1866.

*Hemidoris*¹, Stimpson, 1855.

Body elongate, subquadrate; mantle narrow, covering the head, but not the extremity of the foot; generally smooth, and marked with bright colours in stripes or spots; oral tentacles conical or tubercular. Branchiæ linear, usually pinnate, retractile in a common cavity. Odontophore broad, with numerous transverse rows of many close-set plates, each bearing two large spines, one in front of the other, the posterior one bearing denticulations; no central plate; a buccal collar, formed of two broad plates, bearing close minute bifid spines.

*List of Species*².

1. *C. ZEBRINA*, Ald. & Hanc. Trans. Zool. Soc. v. p. 123, pl. 29. f. 7 (1861).

Hab. Coast of Madras.

2. *C. ELISABETHINA*, Bergh, Journ. des Mus. Godeff. Heft viii. p. 73 (1875), and in Semper's Riese im Arch. phil. Bd. ii. Heft x. T. 21. f. 6-15, & T. 53. f. 58.

Hab. Philippine seas.

3. *C. ANNÆ*, Bgh. *l. c.* p. 73; fig. Semper, *l. c.* T. 51. f. 22, 23.

Hab. Philippine seas.

4. *C. STRIATELLA*, id. *l. c.* p. 73; fig. Semper, *l. c.* T. 51. f. 24, 25.

Hab. Philippine seas.

5. *C. GLORIOSA*, id. *l. c.* Heft vi. T. 1. f. 6-9 (1874).

Hab. Tahiti.

6. *C. SCURRA*, id. *l. c.* Heft vi. T. 1. f. 10-13; fig. Semper, *l. c.* T. 51. f. 26-31.

Hab. Tahiti.

7. *C. HISTRIO*, id. *l. c.* Heft viii. p. 73.

Hab. Pacific Ocean.

8. *C. LUXURIOSA*, id. *l. c.* p. 73.

Hab. Pacific Ocean.

¹ The only characters given are "mantle adnate behind; the rest as in *Doris*." The description of the typical species, *H. cæruleata*, would apply to a *Chromodoris*.

² In a recent list by M. Bergh, 73 forms are included.

9. CHROMODORIS LEMNISCATA, Bgh.

D. lemniscata, Quoy & Gaim. Voy. de l'Astr. Zool. ii. p. 268, pl. 19. f. 8, 11 (1832).

Goniodoris lemniscata, Gray; *Doriprismatica lemniscata*, H. & A. Adams.

Hab. Mauritius.

10. C. LINEATA.

D. lineata, Souleyet, Voy. de la Bonite, Zool. ii. p. 453, pl. 25. f. 5-9 (1852); *Goniodoris lineata*, Gray.

Doriprismatica lineata, Adams.

Hab. Sandwich Islands.

11. C. MAGNIFICA, Bergh.

D. magnifica, Quoy & Gaim. l. c. p. 270, pl. 28. f. 1-4.

Goniodoris magnifica, Gray¹.

Doriprismatica magnifica, Adams.

Hab. New Guinea.

12. C. WHITEI, Bgh.

Goniodoris whitei, Adams & Reeve, Zool. of Samarang, Moll. p. 68, pl. 19. f. 6 (1848).

Doriprismatica whitei, H. & A. Adams.

Hab. China seas.

13. C. PICTURATA, Bgh.

Goniodoris picturata, Mörch, Journ. de Conch. xi. p. 35 (1863).

Hab. St. Thomas.

14. C. TRILINEATA, Bgh.

G. trilineata, Ad. & Reeve, l. c. p. 68, pl. 17. f. 4, 4 a.

D. trilineata, H. & A. Adams.

Hab. China seas.

15. C. QUADRICOLOR, Bgh.

D. quadricolor, Rüpp. & Leuck. l. c. p. 31, t. ix. f. 2.

Hab. Red Sea.

16. C. VILLAFRANCA, Bgh.

D. villafranca, Risso, Journ. de Phys. lxxxvii. p. 470 (1818).

D. pulcherrima, Cantraine; *D. villafranca*, Philippi; *Doriprismatica villafranca*, D'Orb.; *Goniodoris villafranca* and *Goniodoris pulcherrima*, Gray.

Hab. Mediterranean.

17. C. GRACILIS, Bgh.

D. gracilis, Delle Chiaje, Mem. sulla Storia &c., ed. 2, p. 76, tav. 104. f. 22, 23.

Hab. Mediterranean.

¹ In M. E. Gray's 'Figures,' t. 67. f. 17, is given a drawing of a *Chromodoris*, called "*D. magnifica*, Banks, Icon. Ined. 25; Endeavour River," which may be the same animal.

18. CHROMODORIS CÆRULEA, Bgh.

D. cærulea, Risso, *l. c.* p. 370.*D. gracilis*, Rapp; *D. tricolor*, Cantr.; *Gon. cærulea*, Gray; *Dorip. cærulea*, H. & A. Adams.*Hab.* Mediterranean.

19. C. DECORA, Pease.

D. decora, Pease, Proc. Zool. Soc. 1860, p. 29.*Hab.* Sandwich Islands.

20. C. MARGINATA, Pease.

D. marginata, Pease, *l. c.* p. 30.*Hab.* Sandwich Islands.

21. C. LINEOLATA, Bgh.

D. lineolata, Van Hass. Bull. Sc. Nat. iii. p. 238 (1824).*Hab.* Java.

22. C. ALBA, Bgh.

D. alba, Van Hass. *l. c.* p. 238.*Hab.* Indian Ocean.

23. C. DORSALIS, Bgh.

D. dorsalis, Gould, Un.-St. Expl. Exp., Moll. &c. p. 304, pl. 25. f. 400 (1852).*Doripr. dorsalis*, H. & A. Ad.*Hab.* Society Islands (Eimeo).24. C. RUMINATA, Bgh. *l. c.* p. 75; figured in Semper, *l. c.* T. 51. f. 32, 33, and T. 53. f. 5-12.*Hab.* Philippine Islands.25. C. SEMPERI, id. *l. c.* p. 75; figured in Semper, *l. c.* T. 51. f. 34, & T. 52. f. 1, 2, & T. 53. f. 13, 14.*Hab.* Philippine Islands.26. C. PAUPERA, id. *l. c.* p. 75; figured in Semper, *l. c.* T. 53. f. 15-27.*Hab.* Philippine Islands.27. C. VIRGINEA, id. *l. c.* p. 75.*Hab.* Philippine Islands.28. C. ALBESCENS, id. *l. c.* p. 75.*D. albescens*, "Schultz," Phil. En. Moll. Sic. i. p. 105 (1836), and figured ii. t. 19. f. 7; *Gon. albescens*, Gray; *Doriprism. albescens*, H. & A. Ad.*Hab.* Mediterranean (Sicily).

29. *CHROMODORIS OBSOLETA*, Bgh.
D. obsoleta, Rüpp. & Leuck. *l. c.* p. 31, t. 9. f. 3.
Goniodoris obsoleta, Gray ; *Doriprismatica obsoleta*, H. & A. Ad.
Hab. Red Sea (Tor).
30. *C. TINCTORIA*, Bgh.
D. tinctoria, Rüpp. & Leuck. *l. c.* p. 32, t. 9. f. 4.
Gon. tinctoria, Gray ; *Doripr. tinctoria*, H. & A. Ad.
Hab. Red Sea (Tor).
31. *C. PULCHELLA*, Bgh.
D. pulchella, Rüpp. & Leuck. *l. c.* p. 32, t. 9. f. 5.
Gon. pulchella, Gray ; *Doripr. pulchella*, H. & A. Ad.
Hab. Red Sea (Tor).
32. *C. PALLIDA*, Bgh.
D. pallida, Rüpp. & Leuck. *l. c.* p. 33, t. 10. f. 1.
Gon. pallida, Gray ; *Doripr. pallida*, H. & A. Ad.
Hab. Red Sea (Tor).
33. *C. VARIEGATA*, Pease, Am. Journ. Conch. vii. p. 15, pl. 7.
 f. 1 (1871).
Hab. Tahiti.
34. *C. TRIONI*, Bgh.
Goniodoris trioni, Garrett, Proc. Ac. Nat. Hist. Phil. p. 232, pl.
 4 (1873).
Hab. Society Isles.
35. *C. PUSTULANS*, Bgh. *l. c.* p. 75.
Hab. Philippine seas.
36. *C. RUFOMACULATA*, Pease, *l. c.* p. 17, pl. 8. f. 1.
Hab. Huahcine.
37. *C. ELEGANTULA*, Bgh.
D. elegantula, Phil. En. Moll. Sic. ii. p. 80, t. 19. f. 8 (1844).
Gon. elegantula, Gray ; *Doripr. elegantula*, H. & A. Ad.
Hab. Mediterranean (Sicily).
38. *C. SCACCHI*, Bgh.
D. scacchi, Delle Chiaje, *l. c.* T. 104. f. 13, 14, 15.
Hab. Mediterranean.
39. *C. SIMPLEX*, Pease, *l. c.* p. 17, pl. 8. f. 2.
Hab. Maiao.
40. *C. ALBOMACULATA*, Bgh.
Goniobranchus albomaculatus, Pease, *l. c.* ii. p. 204 (1866), & Am.
 J. Conch. vi. pl. 20. f. 2.
Hab. Pacific islands.

41. *CHROMODORIS ALBONOTATA*, Bgh. *l. c.* p. 76.
Hab. Pacific Ocean.
42. *C. INORNATA*, Pease, *l. c.* vii. p. 18, pl. 8. f. 3 (1871).
Hab. Huaheine.
43. *C. LENTIGINOSA*, Pease, *l. c.* p. 18, pl. 9. f. 1.
Hab. Pacific (Huaheine).
44. *C. VARIANS*, Pease, *l. c.* p. 19, pl. 9. f. 2.
Hab. Pacific (Huaheine, Maiao).
45. *C. PULCHRA*, Bgh.
D. pulchra, Pease, Proc. Zool. Soc. 1861, p. 247.
Goniobranchus pulchra, id.
Hab. Pacific Islands.
46. *C. VIBRATA*, Bgh.
D. vibrata, Pease, Proc. Zool. Soc. 1860, p. 28.
Goniobranchus vibrata, id.
Hab. Sandwich Islands.
47. *C. PROPINQUATA*, Bgh.
D. propinquata, Pease, *l. c.* p. 28.
Goniobranchus propinquata, id.
Hab. Sandwich Islands.
48. *C. PICTA*, Bgh.
D. picta, Pease, *l. c.* p. 29.
Goniobranchus picta, id.
Hab. Sandwich Islands.
49. *C. PURPUREA*, Bgh.
D. purpurea, "Risso,"¹ Guérin, Mag. de Zool. 1^{re} année, "Moll." p. 17, pl. 17. f. 1-4 (1831).
Goniodoris purpurea, Gray; *Doriprismatica purpurca*, H. & A. Ad.
Hab. Mediterranean (Villafranca).
50. *C. BENNETTI*, Bgh.
Goniodoris bennetti, Angas, *l. c.* p. 51, pl. 4. f. 10.
Hab. New South Wales (Port Jackson).
51. *C. LORINGI*, Bgh.
Goniodoris loringi, Angas, *l. c.* p. 52, pl. 4. f. 11.
Hab. Port Jackson.
52. *C. MARIEI*, Bgh.
Goniodoris mariei, Crosse, Journ. de Conch. xx. pp. 77 & 153, pl. 7. f. 5 (1872).
Hab. New Caledonia, Noumea.

¹ Called "*D. purpurea*, Laurillard," on the plate.

53. *CHROMODORIS SPLENDIDA*, Bgh.*Goniodoris splendida*, Angas, *l. c.* p. 55, pl. 5. f. 2.*Hab.* Port Jackson.54. *C. DAPHNE*, Bgh.*Goniodoris daphne*, Angas, *l. c.* p. 54, pl. 5. f. 3.*Hab.* New South Wales (Woolloomooloo Bay).55. *C. FESTIVA*, Bgh.*Goniodoris festiva*, Angas, *l. c.* p. 53, pl. 4. f. 12.*Hab.* New South Wales (Vaucluse Bay).56. *C. MONTROUZIERI*.*Goniodoris montrouzieri*, Crosse, Journ. de Conch. 3rd ser. xv. p. 311, pl. 12. f. 4 (1876).*Hab.* Noumea, New Caledonia.57. *C. VERRIERI*.*Goniodoris verrieri*, id. *l. c.* p. 313, pl. 12. f. 5.*Hab.* Noumea, New Caledonia.58. *C. LAMBERTI*.*Goniodoris lamberti*, id. *l. c.* p. 314, pl. 12. f. 6.*Hab.* Noumea, New Caledonia.59. *C. PETITI*.*Goniodoris petiti*, id. *l. c.* p. 315, pl. 12. f. 7.*Hab.* Noumea, New Caledonia.60. *C. SOUVERBIEI*.*Goniodoris souverbiei*, id. *l. c.* p. 316, pl. 12, f. 8.*Hab.* Noumea, New Caledonia.61. *C. ALBOPUSTULOSA*, Bgh.*Doris albopustulosa*, Pease, Proc. Zool. Soc. 1860, p. 30.*Hab.* Sandwich Islands.62. *C. PALLENS*, Bgh.¹*Doris pallens*, Rapp, *l. c.* p. 522, t. 27. f. 9.*Hab.* Mediterranean.63. *C. CROSSEI*, Bgh.*Goniodoris crossei*, Angas, *l. c.* p. 54, pl. 5. f. 1.*Hab.* Port Jackson.64. *C. ? PUSILLA*, Bgh. *l. c.* Heft vi. t. i. f. 19, 20 (1874).*Hab.* Pacific Ocean.

¹ Very scantily characterized by Rapp; Philippi thinks it possible that this and *D. elegantula* are varieties of the same species.

65. CHROMODORIS? PUNCTULIFERA, Bgh.

Doris? punctulifera, id. *l. c.* Heft vi. t. 1. f. 19, 20.*Hab.* Pacific Ocean.

66. C. SCHULTZIANA.

D. elegans, Cantr. Bull. ii. p. 383 (1835).*D. picta*, "Schultz," Philippi; *D. schultzi*ana, Delle Chiaje; *Goniodoris picta*, Gray; *Doriprismatica picta*, H. & A. Ad.; *G. elegans*, Fischer.*Chromodoris? elegans*, Bgh.*Chr.? picta*, Bgh.*Hab.* Mediterranean, coast of France.

67. C. NARDII.

C.? nardii, Bgh.*D. nardii*, Verany, Cat. an. inv. Golfo Genova, &c. pp. 16 & 20 (1846).*Hab.* Gulf of Genoa; Nice.

68. C. INFUCATA.

C.? infucata, Bgh.*D. infucata*, Rüpp. & Leuck. *l. c.* p. 34, t. 10. f. 3.*Goniodoris infucata*, Gray; *Doriprismatica infucata*, H. & A. Ad.*? D. marmorata*, Audouin (sec. Rüpp. & Leuck.).*Hab.* Red Sea (Tor).

69. C. ELEGANS.

C.? elegans, Bgh.*D. elegans*, Qu. & Gaim. *l. c.* p. 273, pl. 20. f. 12-14.*Goniodoris elegans*, Gray; *Doriprismatica elegans*, H. & A. Ad.*Hab.* Friendly Islands (Tongataboo).70. C.? CITRINA, Bgh. *l. c.* Heft vi. t. 1. f. 14-17 (1874).*Hab.* Pacific Ocean.71. C. PALLESCENS, Bgh.¹ *l. c.* Heft viii. p. 81, t. 7. f. 4-4, & t. 9. f. 11-18.*Hab.* Tahiti.

72. C.? SUBPULCHELLA.

C.? pulchella, Bgh.², Semper's Reise im Arch. der phil. 2te Th. 2te Bd. Heft v. t. 25. f. 11 (1873).*Hab.* Philippine seas.73. C. LUTEO-ROSA, Bgh.³*D. luteo-rosa*, Rapp, *l. c.* p. 521, pl. 26. f. 6, 7.*Hab.* Mediterranean.¹ Not included in his list of *Chromodorides*.² No description; the retractility of the branchiæ and rhinophores is not well shown in the figure. Bergh does not include it in his list of *Chromodorides*.³ The foot is described as smaller than the mantle, and Cantraine considers the animal near *D. guttata*, Risso.

74. CHROMODORIS MACCARTHYI.

D. maccarthyi, Kelaart, Ann. Nat. Hist. 3rd ser. iii. p. 292 (1859).

D. maccarthiana, id.

Hab. Coast of Ceylon.

75. C. GLENEI.

D. glenei, Kelaart, *l. c.* p. 294.

Hab. Coast of Ceylon.

76. C. AMABILIS.

D. amabilis, Kel. *l. c.* p. 294.

Hab. Coast of Ceylon.

77. C. FIDELIS.

D. fidelis, Kel. *l. c.* p. 295.

Hab. Coast of Ceylon.

78. C. PASINII.

D. pasinii, Verany, *l. c.* pp. 16 & 20.

Hab. Gulf of Genoa, and Nice.

79. C. PIRAINII.

D. pirainii, id. *l. c.* pp. 17 & 21.

Hab. Gulf of Genoa, and Nice.

80. C. CALCARÆ.

D. calcaræ, id. *l. c.* pp. 16 & 20.

Hab. Gulf of Genoa, and Nice.

81. C. RETICULATA.

D. reticulata, Qu. & Gaim. *l. c.* p. 273, pl. 20. f. 12-14.

Goniodoris reticulata, Gray; *Doriprismatica reticulata*, H. & A. Ad.

Hab. Tongataboo.

82. C. XANTHOLEUCA.

D. (Glossodoris) xantholeuca, Ehr. Symb. Phys. & c.

Glossodoris xantholeuca, Gray.

Hab. Red Sea.

83. C. ERYTHRÆA.

D. (Glossodoris) erythræa, Ehr. *l. c.*

Glossodoris erythræa, H. & A. Ad.

Hab. Red Sea.

84. C. IMPERIALIS.

D. prismatica, var. *imperialis*, Pease, Proc. Zool. Soc. 1860, p. 32.

Doriprismatica imperialis, id. Am. Journ. Conch. iv. p. 132 (1869).

Hab. Sandwich Islands.

85. CHROMODORIS PRISMATICA.

D. prismatica, var. *lineata*, Pease, *l. c.* p. 32.*Doriprismatica lineata*, id. (1869).*Hab.* Sandwich Islands.

86. C. VENULOSA.

D. venulosa, Leuckart, Brev. An. quor. Descr. p. 15 (1828).*Hab.* Mediterranean.

87. C. KROHNII.

D. krohnii, Verany, *l. c.* pp. 17 & 21.*Hab.* Gulf of Genoa; Nice.

88. C.? VILLÆ.

D. villæ, Verany¹, *l. c.* pp. 17 & 21.*Hab.* Gulf of Genoa; Nice.

89. C.? LUTESCENS.

D. lutescens, "Delle Chiaje," Verany, *l. c.* pp. 16 & 20.*Hab.* Gulf of Genoa; Nice.

90. C.? ORSINII.

D. orsinii, Verany, *l. c.* pp. 16 & 20.*Hab.* Gulf of Genoa; Nice.

91. C. TENNENTIANA.

D. tennentiana, Kel. *l. c.* vol. iv. p. 268 (1849).*Hab.* Ceylon.92. C.? PRETIOSA².*D. pretiosa*, Kel. *l. c.* vol. iii. p. 295.*Hab.* Ceylon.93. C.? BRACHYPHYLLA³.*D. (Pterodoris) brachyphylla*, Ehr. *l. c.**Glossodoris brachyphylla*, H. & A. Ad.*Hab.* Red Sea (Tor).

94. C.? PICTURATA.

D. (Pterodoris) picturata, Ehr. *l. c.**Glossodoris picturata*, H. & A. Ad.*Hab.* Red Sea (Suez).

95. C.? SPONSA.

D. (Actinodoris) sponsa, Ehr. *l. c.**Actinodoris sponsa*, Gray.*Hab.* Red Sea (Ras Muhamed).

96. C.? MOLLITA, sp. nov. (Plate XXX. figs. 18, 19.)

Hab. —?¹ The branchiæ are said to be foliaceous. ² Foot shorter than the mantle.³ The branchiæ are described as very short and ramulose.

97. CHROMODORIS? CÆRULEATA.

Hemidoris cæruleata, Stimpson, Proc. Ac. Nat. Sc. Phil. vii. p. 379 (1855).

Hab. China.

Gen. ORODORIS, Bergh, 1875.

Mantle (nothæum) somewhat as in *Miamira*, keeled above with transverse ribs; no frontal or caudal veils, or lateral lobes lamellate beneath. Foot rather narrow. Integument without spicules. Armature of the oral aperture as in *Miamira*—a spinous buccal collar. Odontophore as in *Miamira*; but the rachis is hardened¹. (*Bergh.*)

O. MIAMIRANA, Bgh. *l. c.* Heft viii. p. 67, T. 7. f. 3-3, & T. 10. f. 9-20 (1875).

Hab. Tahiti.

Gen. CERATODORIS, Gray, 1850.

Echinodoris, Bergh, 1874.

Form rather depressed; back everywhere covered with elongated papillæ; back and papillæ spiculose. Rhinophores and branchiæ retractile. Odontophore with the pleuræ multidentate. Penis armed at the apex with series of minute uncini. (*Bergh.*)

Dr. Gray's diagnosis is very scanty, and, with little doubt, incorrect². As M. Bergh remarks, Dr. Gray himself had not seen the animal for which he constituted the genus *Ceratodoris*. The name "*Echinodoris*" is decidedly more appropriate; but this does not seem a sufficient reason for giving up the earlier appellation.

C. EOLIDA, Gray.

Doris eolida, Quoy & Gaim. Voy. de l'Astr. Zool. ii. p. 263, pl. 18. f. 11-15.

? *Echinodoris eolida*³, Bgh. Journ. des Mus. Godeff. Heft vi. p. 109, T. 3. f. 4-20 (1874).

Hab. Waigiou.

Gen. HEXABRANCHUS, Ehr. 1831.

? *Heptabbranchus*, Adams, 1849.

Rhacodoris, Mörch, 1863 (part of).

Body soft; integument non-spiculose (?)⁴; rhinophores sharply bent, and with an anterior knee, retractile within marginated cavities;

¹ *Orodoris*, according to M. Bergh, is nearly related to his new genus *Miamira*, which, again, is closely allied to *Casella*. The large development of the mantle and the absence of marginal processes places the first among the Dorididæ, while the contrary characters approximate the two latter to the Polyceridæ. Perhaps the three genera may be regarded as intermediate between Dorididæ and Polyceridæ.

² Viz. "Tentacles elongate, filiform, not retractile."

³ Quoy and Gaimard's appears to me a distinct species, judging from their description and figure of the rhinophores and papillæ: the arrangement of the branchiæ is also different.

⁴ I can find no spicules in the 29 specimens, representing 5 or 6 species, which I have examined.

branchiæ generally small, numerous, ramose, non-retractile, arranged in 6 to 8 tufts, which are set in an open circle at some distance around the anal opening; oral tentacles large, fleshy, flat, ovoid or leaf-shaped, with crenulate edge. Odontophore broad, with numerous lateral simple spines in each transverse row: none median in position.

The species fall under two well marked divisions:—

a. *Those with the body depressed; the mantle non-pustulose, widely expanded, and attenuate at the border; and the mouth with two lateral more or less horny plates, forming a kind of prehensile collar.*

1. *HEXABRANCHUS PRÆTEXTUS*, Ehr. Symb. Phys. "An. Ev. excl. insect." (1831).

Hab. Red Sea.

2. *H. SANGUINEUS*, Gray.

D. sanguinea, Rüpp. & Leuck. Atlas &c., Neu. Wirb. Th. des R. Meers, p. 28, t. 8. f. 1 (1828).

Hab. Red Sea.

3. *H. SUEZENSIS*, Abraham, Ann. & Mag. Nat. Hist. 4th ser. vol. xviii. p. 137, pl. 6. figs. 3, 3 a (1876).

Hab. Red Sea.

4. *H. SUPERBUS*.

Doris superba, Gould, U.S. Expl. Exp., Mollusca, p. 301, pl. 23. fig. 396 (1852).

Actinodoris superba, H. & A. Adams.

Hab. Samoa Islands.

5. *H. CARDINALIS*, H. & A. Adams.

D. cardinalis, Gould, *l. c.* p. 302, pl. 25. fig. 397.

Hab. Sandwich Islands.

6. *H. SUMPTUOSUS*, H. & A. Adams.

D. sumptuosa, Gould, *l. c.* p. 303, pl. 24. fig. 398.

Hab. Tonga Islands.

7. *H. SANDWICHENSIS*, Gray.

D. sandwichensis, Souleyet, Voy. de la Corv. 'la Bonite,' Zool. ii. p. 451, pl. 25. f. 1-4 (1852).

Hab. Sandwich Islands.

8. *H. MARGINATUS*.

D. marginata, Quoy & Gaim. Voy. de l'Astrol. Zool. ii. p. 255, pl. 17. f. 1-5 (1832).

D. marginalis, Gray; *D. gloriosa*, Kelaart.

Hab. Amboina; Ceylon.

9. *HEXABRANCHUS ORBICULARIS*, sp. nov. (Plate XXX. figs. 23, 24.)

Hab. Mauritius.

10. *H. ANEITEUMENSIS*, sp. nov.

H. aneitensis, Bergh (in sched.).

Hab. Aneiteum.

11. *H. MAURITIENSIS*, sp. nov.

Hab. Mauritius, Rodriguez.

12. *H. ADAMSII*, Gray, Fig. Moll. An. iv. p. 104, t. 219. f. 1 (1850).

Hab. ———?

13. *H. PULCHELLUS*, Pease, P. Z. S. 1860, p. 33.

Hab. Sandwich Islands.

14. *H. FAUSTUS*, Bergh, figured in Semper's 'Reise,' Bd. ii. Heft ix. (1875) t. 41. f.

Hab. Philippine seas (?).

15. *H. ? FLAMMULATUS*.

D. flammulata, Quoy & Gaim. l. c. p. 257, pl. 17. f. 6–10 (1832).

Actinodoris flammulata, Gray.

Hab. Friendly Isles.

16. *H. ? BURNETTII*.

Heptabranchnus burnettii, "A. Ad.," Gray, Fig. Moll. An. p. 104, t. 219, f. 2 (1850).

Hab. ———?

b. *Those with the body subprismatic, and not much depressed; the mantle more or less pustulose, and its border but little expanded or attenuated; with no prehensile collar.*

17. *H. LACERUS*.

D. lacera, Cuv. Ann. du Mus. iv. p. 453, pl. 73. f. 1–3 (1804).

D. laciniata, Gray.

Hab. Timor.

18. *H. PELLUCIDULUS*, Abr. l. c. p. 136, pl. 6. f. 2, 2a–2c.

Hab. ———?

§ 2. LEPTOGLOSSÆ.

Gen. *CALYCIDORIS*, Abraham, 1876.

Body depressed; mantle ample, covered with soft papillæ; branchiæ simply laminate, arranged like a cup around the anus, sub-retractile in a common cavity. Oral tentacles represented by a fleshy, laterally extended veil. Odontophore narrow, bearing two bicuspid spines, one each side, in each transverse row; no central spine, spinous collar, or under jaw.

CALYCIDORIS GUENTHERI, Abraham, Ann. & Mag. Nat. Hist. 4th ser. vol. xviii. p. 133, pl. 6. f. 1, 1 a-1 c (1876).

Hab. ——?

Gen. LAMELLIDORIS, Ald. & Hanc. 1855.

Onchidoris, De Blainv. 1816¹. *Onchidorus*, Férussac, 1821. *Onchidora*, Cuv., 1830. *Villiersia*, D'Orbigny, 1837. *Oncidiodoris*, Agassiz, 1847. *Oncodoris*, Agassiz, 1847.

Body depressed. Mantle large. Head with a veil in place of oral tentacles. Branchiæ simply pinnate, set in an open circle or ellipse, non-retractile. Odontophore narrow, with a few spines in each transverse row.

This genus contains two well-defined divisions, first enunciated by Messrs. Alder & Hancock.

- a. *Body not very depressed; mantle with moderate-sized spicula. Spawn of few coils, cup-formed. Odontophore with two large spines and two or more rudimentary ones; usually a simple central plate.*

1. L. ASPERA, Ald. & Hanc.

Doris aspera, id. Ann. & Mag. Nat. Hist. ix. p. 32 (1842), figured in Mon. Br. Nud. pl. 9. f. 1-9.

D. pallida, Agassiz. ? *D. fusca*, Fabricius².

Hab. North European shores; eastern coast of North America.

2. L. ACUTIUSCULA.

D. acutiuscula, "Stp.," Möller, Index Moll. Grön. in Nat. Tidssk. iv. p. 79 (1842-3).

Hab. Eastern coast of North America.

3. L. PROXIMA, Ald. & Hanc.

D. proxima, id. Mon. Brit. Nud. p. 42, and pt. 6, fam. 1, pl. 9. f. 10-16 (1854).

Hab. Danish and English coasts.

4. L. LOVENI.

D. muricata, "Müller," Lovén, Index Moll. Lit. Scand. &c. p. 5 (1846).

D. loveni, Ald. & Hanc.

Hab. North-European shores.

¹ *Onchidoris* was constituted by De Blainville in 1816 for a supposed species ("*O. leachii*") which we now know to be *L. bilamellata*, his specimen being still existing in the collection of the British Museum. This was pointed out by Alder and Hancock, and the erroneous characterization exposed, in 1854; nevertheless compilers of Zoological text-books and reference-books still continue to talk of "*Onchidoris leachii*;" and several of them have taken *Onchidoris*, in spite of its hypothetical characters, as the name of the whole genus.

² Moreh considers it identical with *D. fusca*, Müller, and with *D. muricata*, Meyer and Möbius (non Müller).

5. LAMELLIDORIS MURICATA, Ald. & Hanc.

D. muricata, Müller, Zool. Dan. Prod. p. 229 (1776).*Onchidoris muricata*, Gray.*Hab.* Irish, Danish, and French coasts.

6. L. ULIDIANA, Ald. & Hanc.

D. ulidiana, Thompson, Ann. & Mag. Nat. Hist. xv, p. 312 (1845).*Hab.* Irish coast.

7. L. DIAPHANA, Ald. & Hanc.

D. diaphana, id. Ann. & Mag. Nat. Hist. xvi. p. 313 (1845).*O. diaphana*, Gray.*Hab.* S. of England and Danish coasts.

8. L. OBLONGA, Ald. & Hanc.

D. oblonga, id. Ann. & Mag. Nat. Hist. xvi. p. 314 (1845).*Hab.* S. coast of England.

9. L. DERELICTA.

D. derelicta, Fischer, Journ. de Conch. xv. p. 7 (1867).*D. verrucosa*, "Cuv.," Delle Chiaje, &c. [sec. Fischer].*Hab.* French coasts.

10. L. BILAMELLATA, Ald. & Hanc.

D. bilamellata, Linnæus, Syst. Nat. ed. 12, p. 1083 (1767).*D. fusca*, Müller; *D. verrucosa*, Pennant; *D. elfortiana*, De Bl.*O. leachii*, De Bl.; *D. vulgaris*, Leach; *D. obvelata*, Bouch.-Chant.*D. affinis*, Thomps.; *D. liturata*, "Beck," Miller; *D. coronata*, Agassiz.*Oncidoris bilamellata*, Hogg; *L. leachii*, Mörch.*Hab.* Coast of N. Europe, Iceland, Greenland, East N. America, and Vancouver Island.

11. L. TUBERCULATA.

Onchidoris tuberculatus, Hutton, Reports &c. New Zealand, Mar. Moll. p. 53 (1873).*Hab.* New Zealand.

12. L. DIADEMATA.

D. diademata, Agass. 1850 (no descr. or fig.), Gould, Inv. of Massachusetts, 2nd ed. p. 230, pl. 21. f. 298, 300-304 (1870).

13. "L. n. sp.?" Mörch, Vidensk. Meddelels. for 1871, p. 23.

Hab. Danish Seas.

- b. *Body very depressed, with large spicules symmetrically arranged. Spawn of many narrow coils. Odontophore with two large broad spines and two rudimentary ones; no central plate.*

14. *LAMELLIDORIS DEPRESSA*, Ald. & Hanc.

D. depressa, Ald. & Hanc. Ann. & Mag. Nat. Hist. ix. p. 32.

Villiersia scutigera, D'Orb.¹ Mag. de Zool. vii. "Mém. sur des esp. &c. de l'ord. des Nud." p. 14, pl. 109. f. 1-4 (1837).

15. *L. INCONSPICUA*, Ald. & Hanc.

D. inconspicua, id. Mon. Br. Nud. Moll. p. 43, and pt. 5, fam. 1. pl. 12. f. 9-16 (1851).

Onchidoris inconspicua, Gray.

Hab. British coast (Northumberland).

16. *L. GRISEA*.

D. grisea, "Stimps. MS.," Gould, Inv. Mass. 2nd ed. p. 232, pl. 20. f. 292, 295 (1870).

Hab. E. N. America (Massachusetts).

17. *L. TENELLA*.

D. tenella, Agass. 1850 (no descr. or fig.) ; Gould, *l. c.* p. 229, pl. 20. f. 289, 290, and 293.

Hab. E. N. America (Massachusetts).

18. *L. PUSILLA*, A. & H.

D. pusilla, id. Ann. & Mag. Nat. Hist. xvi. p. 313 (1845).

O. pusilla, Gray.

Hab. S. coast of England (Devonshire).

19. *L. SPARSA*, A. & H.

D. sparsa, id. *l. c.* vol. xviii. p. 293 (1846).

O. sparsa, H. & A. Adams.

Hab. British coast (Cullercoats).

20. *L. LUTEOCINCTA*.

D. luteocincta, M. Sars, Bidr. til Kundsk. Chr. Faun. ii. p. 77 (1870).

Hab. Scandinavian coast (Vallo).

21. *L. ECHINATA*.

D. echinata, Lovén, Ind. Moll. Lit. Scand. &c. p. 5 (1846).

"? *D. affinis* A. & H.," Lovén.

Hab. West Scandinavian shores (Boh).

¹ Messrs. Alder and Hancock showed that the *Villiersia scutigera* of D'Orbigny was closely allied to, if not identical with, *L. depressa*, and that the generic characters were based upon erroneous observations—a view since confirmed by M. Fischer. Notwithstanding this, the genus "*Villiersia*," like "*Onchidoris*," still finds a place in our text-books.

22. LAMELLIDORIS ? EUBALIA.

D. eubalia, Fischer, Journ. de Conch. xx. p. 10 (1872).*Hab.* French coast (Gironde).23. L. "? n. sp."¹ Mörch, l. c. p. 24.*Hab.* Danish Seas.

Gen. ACANTHODORIS, Gray (1850).

Body convex ; mantle moderate in size, covered with soft papillæ. Oral tentacles united in a veil, with free flattened lateral ends. Branchiæ united at the base, non-retractile. Odontophore narrow, with 2 large spines and several rudimentary ones in each transverse row, none central ; usually a spinous buccal collar and rudimentary under jaw.

1. A. PILOSA, Gray.

Doris pilosa, Müller, Zool. Dan. iii. p. 7, t. 65. f. 5-8 (1789).

"Het eegeltje of de Zeeslak met eene ster op de stint," Bommé.

D. stellata, Gmelin ; *D. lævis*, Cuv. ; *D. nigricans*, Fleming ; *D. flemingii*, Forbes ; *D. sublævis*, Thompson ; *D. similis*, A & H. ; *D. fusca*, Lovén ; *D. tomentosa*, Lov. ; ? *D. rocinella*, Leach.

Hab. European coasts ; Eastern North America.

2. A. MOLLICELLA, sp. nov. (Plate XXX. figs. 1-4.)

Hab. Lord Auckland's Islands.

3. A. GLOBOSA, sp. nov. (Plate XXX. figs. 5-9.)

Hab. New Zealand.

4. A. SUBQUADRATA, Ald. & Hanc.

D. subquadrata, id. Ann. & Mag. Nat. Hist. xvi. p. 313 (1845), and fig. in Mon. Br. Nud. pl. 16. f. 1-3.

D. quadrangulata, Alder.*Hab.* British coasts.

Fam. II. POLYCERIDÆ, A. & H. 1855.

Les Doris prismatiques, Cuv. 1804 (part of).Subfam. *Polycerinae*, A. & H. 1845.

Mantle small or obsolete, generally with marginal appendages, integument usually spiculose. Rhinophores various, often laminated.

Messrs. Alder and Hancock divide the Polyceridæ into two sections, according as the rhinophores are retractile or non-retractile. This gives a convenient arrangement.

§ A. *Rhinophores retractile within sheaths ; the odontophore broad.* (EURYGLOSSÆ.)

Gen. MIAMIRA, Bergh, 1874.

Mantle (nothæum) anteriorly produced into a frontal veil, and

¹ This may be a *Doris* allied to *D. verrucosa*.

furnished with lateral flattened lobes, lamellate below, behind continued into a caudal veil, above keeled and with transverse ribs. Oral aperture armed with a spinous buccal collar. Odontophore broad, with numerous series of teeth, many of them multidentate; the rhachis unarmed. (*Bergh.*)

1. *MIAMIRA NOBILIS*, Bgh. Journ. des Mus. Godeff. Heft 6, T. 1. f. 5; and T. 4. f. 29-33 (1874), & Bd. ii. T. 33. f. 2, & p. 411.

Hab. Philippine seas, Albany, Samoa, Amboina.

Gen. *CASELLA*, H. & A. Adams, 1858.

Body compressed, elongated. Mantle margin small, forming undulated lobate or erect crests along the sides of the back. Rhinophores laminated, retractile. Foot narrow. Oral aperture armed. Odontophore with numerous minute spines, none median.

1. *C. ATROMARGINATA*, Bgh.

Doris atromarginata, Cuv. Ann. du Mus. iv. p. 473, pl. 74. f. 6 (1804). *D. caudale*, Lamk.

Doriprismatica atromarginata, D'Orb.; *Goniodoris atromarginata*, Gray; *C. philippinensis*, Bgh.

Hab. Pacific Islands, Philippines, New Guinea, Australia, &c.

2. *C. GOULDII*, H. & A. Adams, Gen. Rec. Moll. ii. p. 57, pl. 63. f. 5 (1858).

Hab. Australia.

Gen. *KALINGA*, Alder & Hancock, 1864.

Body oval, subprismatic. Margin of mantle most developed in front, where there is a row of close-set papillated processes extending over the head; a few similar processes are upon the sides of the back. Rhinophores laminated. Oral tentacles flattened. Branchiæ non-retractile, placed separately in a circle at some distance around the anal opening. Odontophore broad, with numerous rather distant rows of tricuspid spines. No jaws or collar.

1. *K. ORNATA*, Ald. & Hanc. Trans. Zool. Soc. v. p. 135, pl. 32. f. 7-10 (1864).

Hab. Coromandel coast.

Gen. *TRIOPA*, Johnston, 1838.

Tritonia, Lamarck, 1801. *Themisto*, Oken (part of), 1815.

Euplocamus, Philippi, 1836 (part of). *Cladophora*, Gray, 1840.

Body more or less depressed. Mantle small, covering the head, the margin with linear subclavate or branched appendages. Rhinophores laminated. Oral tentacles cylindrical or ovoid. Branchiæ few, non-retractile. Odontophore broad, with numerous plates, the two or three inner ones with large spines, none central.

Triopa was instituted by Johnston for the *Doris clavigera* of Müller. Messrs. Alder and Hancock proposed to retain as well the

genus *Euplocamus* for the *E. croceus* of Philippi. The differences between the two genera, however, appear to be more of degree than of kind, and serve better for distinguishing sections of one genus; moreover the latter name is in general use for a genus of Insects, as well as for a genus of Birds. *Euplocamus* originally took in the *Idaliæ*. Oken's *Themisto* included *Polycera quadrilineata* and *Triopa clavigera*.

a. *The lateral marginal processes linear or subclavate; oral tentacles cylindrical; the two inner lateral plates of the odontophore bearing large spines.*

1. *TRIOPA CLAVIGERA*, Johnston.

Doris clavigera, Müller, Zool. Dan. Prod. p. 229 (1776).

Tergipes pulcher, Johnst.; *Polycera claviger*, Sars; *Euplocamus plumosus*, Thompson; *Euplocamus claviger*, Thompson.

Hab. North European coasts.

2. *T. LACERA*.

Doris lacera, Müller, Zool. Dan. iv. p. 23, t. 138. f. 3, 4 (1806).

T. lacera, "Müller," Lovén.

Hab. Scandinavian seas.

3. *T. INCISA*, M. Sars, On some Remark. Forms, &c. i. p. 35, pl. 3. f. 1-3 (1872).

Hab. Coast of Norway (Christiana).

4. *T. CATALINÆ*, Cooper, Proc. Cal. Ac. Nat. Sc. iii. p. 59 (1863).

Hab. Coast of Western North America (Catalina Island).

5. *T. CARPENTERI*, Stearns, Proc. Cal. Ac. Nat. Sci. v. p. 78 (1873).

Hab. Monterey (California).

6. *T. HOLBÖLLII*.

Euplocamus holböllii, Möller, Ind. Moll. Grœn., in Nat. Tidsskr. iv. p. 79 (1842); *Polycera holböllii*, "Möll.," Stimpson.

Hab. Greenland shores.

7. *T. ? GRACILIS*, Pease, Am. Journ. Conch. vi. p. 301, pl. 19. f. 3, a-d.

Hab. Huachuca.

b. *Lateral marginal processes branched or papillated; oral tentacles as ovoid lobes; the three inner lateral plates of the very broad odontophore bearing large spines; a spinous buccal collar.*

8. *T. CROCEA*.

Euplocamus croceus, Philippi, En. Moll. Sic. i. p. 103, pl. 7. f. 1 (1836).

? *E. frondosus*, id. ; ? *Doris ramosa*, Cantraine ; ? *Idalia ramosa*, Phil. ; *Idalia crocea*, id.

Hab. Mediterranean, and south coast of England (Cornwall).

9. *TRIOPA YATESII*, Angas, Journ. de Conch. xii. p. 60, pl. 5. f. 8 (1864).

Hab. New South Wales.

Gen. *THECACERA*, Fleming, 1828.

Body limaciform, smooth. Mantle obsolete ; supracapital veil indistinct. Rhinophores laminated. No oral tentacles. Branchiæ non-retractile, with linear or tubercular lateral appendages. Odontophore broad, with 12–14 plates ; the two inner on each side bearing bicuspid spines ; no central plate. Small lateral corneous jaws.

a. *Rhinophores with completely surrounding sheaths.*

1. *T. VIRESCENS*, Ald. & Hanc. Ann. & Mag. Nat. Hist. 2nd ser. viii. p. 290 (1851).

Hab. S. coast of England (Cornwall).

2. *T. CAPITATA*, Ald. & Hanc. Mon. Br. Nud. Moll. p. 44, & Append. p. iv (1855).

Hab. S. coast of England (Cornwall).

b. *Rhinophores with partially surrounding sheaths.*

3. *T. PENNIGERA*, Fleming.

Doris pennigera, Montagu, Trans. Linn. Soc. xi. p. 17, t. iv. f. 5 (1815).

Polycera pennigera, Fleming.

Hab. N. European coasts (England, France).

Gen. *CRIMORA*, Alder & Hancock, 1862.

Body limaciform. Mantle nearly obsolete, forming a supracapital veil with branched appendages, and a papillated ridge along each side of the back. Rhinophores laminated. Oral tentacles tubercular. Branchiæ non-retractile, placed about two thirds down the centre of the back. Tail short, without a dorsal carina. Odontophore broad, bearing 26 or 27 spines on each side of three kinds ; the innermost one is large, hooked, and bicuspid ; the next 5 or 6 are short and obtuse, and supported on subquadrilateral plates ; the rest very long, slender, and minutely denticulated on the inner margin. No central spine.

C. PAPILLATA, Ald. & Hanc. Ann. & Mag. Nat. Hist. 3rd ser. x. p. 263 (1862).

Hab. Guernsey.

Gen. PLOCAMOPHORUS, Rüppell & Leuckart, 1828.

Plocamoceros, Cuvier, 1830. *Plocamophorus*, Gray, 1842. *Peplidia*, Lowe, 1842. *Histiophorus*, Pease, 1860.

Body limaciform. Mantle represented by a supracapital veil bearing tuberculate or branched appendages on the margin, and by two or three tubercular processes upon each side of the back. Rhinophores laminate. Oral tentacles flat. Branchiæ few, non-retractile. Tail dorsally carinated. Odontophore with the spines near the middle bicuspid, none median in position. An incomplete buccal collar.

1. *P. OCELLATUS*, Rüpp. & Leuck. Atl. zu der Reise nörd. Afrik., "Neue Wirb. Th. des roth. Meers," p. 17, T. 5. f. 3.

Hab. Red Sea.

2. *P. CEYLONICUS*, Ald. & Hanc.

Polycera? ceylonica, Kelaart, Ann. & Mag. Nat. Hist. 3rd ser. iii. p. 489 (1859); figured by Ald. & Hanc. T. Z. S. vol. v. pl. 32. f. 4-6.

Hab. Coromandel and Ceylon coasts.

3. *P. IMPERIALIS*, Angas, Journ. de Conch. xii. p. 52, pl. 5. f. 7 (1864).

Hab. New South Wales.

4. *P. MACULATUS*.

Histiophorus maculatus, Pease, P. Z. S. 1861, p. 36.

Hab. Sandwich Islands.

5. *P. MADERÆ*.

Peplidia maderæ, Lowe, P. Z. S. 1842, p. 51.

Hab. Madeira.

6. *P. NÆVATUS*, Abraham, Ann. & Mag. Nat. Hist. 4th ser. xviii. p. 139, pl. 6. f. 4, 4 a.

Hab. New South Wales.

7. *P. LEVIVARIUS*, Abraham, Bull. de la Soc. Zool. de France, 1876, p. 287, f. 1-4.

Hab. ———?

8. *P. ?* sp.¹, figured in Krusenstern's 'Atlas,' T. 88. f. (1813).

Hab. ———?

9. *P. TILESII*, Bergh; figured partially in Semper's 'Reise,' T. 51. f. 17-27, & T. 53. f. 1-4 (1876).

Hab. ———?

10. *P. RAMULOSUS*.

Polycera? ramulosa, Stimpson, Proc. Ac. Nat. Sci. Phil. vii. p. 379 (1855).

Hab. China.

¹ I have been unable to see the text of Krusenstern. In case the animal has not been named by Tilesius, I have elsewhere proposed *flagellatus* for its specific name, on account of the flagellate lateral prolongations of the supracapital veil.

Gen. *ÆGIRUS*, Lovén, 1846.*Ægires*, Lovén, 1844.

Body convex, covered with large tubercles. Mantle indistinct, represented by a supracapital veil, and by a tubercular ridge along each side. Rhinophores linear, smooth or hispid. Branchiæ non-retractile. Odontophore with simple, curved lateral spines; no central spine. An upper corneous jaw.

1. *Æ. PUNCTILUCENS*, Lovén.

Polycera punctilucens, D'Orbigny, Mag. de Zool. vii. p. 7, pl. 106. f. 1-3 (1837).

Doris maura, Forbes; *Ægires punctilucens*, Lovén.

Hab. North European coasts.

2. *Æ. LEUCKARTII*, Verany, Journ. de Conch. iv. p. 388 (1853).

Hab. Mediterranean (Nice).

3. *Æ. HISPIDUS*, Hesse, Journ. de Conch. xx. p. 346 (1872), and figured xxi. pl. 12. f. 3-7.

Hab. Coast of France (Brittany).

Gen. *NOTODORIS*, Bergh, 1875.

Body limaciform (the back not distinct from the sides). Rhinophores smooth, retractile in cavities protected by valves. No buccal armature. Lingual teeth, none median, the lateral ones erect and hook-shaped. (*Bergh.*)

N. CITRINA, Bergh, *l. c.* Heft viii. p. 64, T. 9. f. 32-45, & T. 10. f. 1-8 (1875).

Hab. Rarotonga.

Gen. *CERATOSOMA*, Adams & Reeve, 1848.

Body elongate, prismatic, smooth, ending in a bluntly pointed tail; the dorsal surface passes into a postbranchial fleshy protuberance. Mantle obsolete. Rhinophores laminated. Branchiæ with the roots more or less coherent, placed in front of, and partially around, the tubular anus, with which they are retractile into a common, smoothly margined cavity. Odontophore with numerous rows of simple spines, none of which are central. A spinous buccal collar.

1. *C. CORNIGERUM*, Adams & Reeve, Zool. of Voy. of Samarang, "Moll. &c." p. 68, pl. 19. f. 5 (1848).

Doris trifida, Gray; *C. trilobata*, id.

Hab. Sooloo and Philippine seas.

2. *C. TRILOBATUM*, Adams.

D. trilobata, Gray, M. E. Gray's Fig. Moll. An. iv. p. 13, t. 67. f. 14 (1850).

C. trilobata, id.

3. *CERATOSOMA GRACILLIMUM*, "Semper," Bgh. in Semper's 'Reise im Arch. d. Phil.' 2te Th. 2te Bd. Heft v. T. 25. p. 8 (1873), & Heft x. p. 403 (1876).

Hab. Philippine sea.

4. *C. CALEDONICUM*, Fischer, Journ. de Conch. sér. 3, tom. xvi. p. 92 (1876).

Hab. New Caledonia.

5. *C. TENUE*, Abraham, Ann. & Mag. Nat. Hist. 4th ser. xviii. p. 141, pl. 7. f. 5, 5 *a*, 5 *b* (1876).

Hab. —?

6. *C. BREVICAUDATUM*, id. *l. c.* p. 142, pl. 7. fig. 6.

Hab. Australia.

7. *C. OBLONGUM*, id. *l. c.* p. 143, pl. 7. f. 7, 7 *a*, 7 *b*.

Hab. W. Australia.

8. *C. ? WEBBII*¹.

Polycera webbii, D'Orbigny, Hist. Nat. des îles Canar. ii. "Moll." p. 41, pl. 4. f. 8–10 (1837).

Goniodoris webbii, Gray; *Doriprismatica webbii*, H. & A. Ad.

Hab. Canary Isles.

Gen. TREVELYANA, Kelaart, 1858.

Gymnodoris, Stimpson², 1855. *Stenodoris*, Pease³, 1866.

Body limaciform, rather swollen or raised on the central region. Mantle obsolete. No appendages. Rhinophores laminate and retractile. Branchiæ pinnate, non-retractile, placed round the anus almost on the centre of the back. Mouth without oral tentacles or veil, and without collar or jaws. Odontophore broad, bearing simple spines.

1. *T. CEYLONICA*, Kel. Ann. & Mag. Nat. Hist. 3rd ser. i. p. 257, pl. 10 B. f. 1, 2 (1858).

T. zeylanica, id.

Hab. Ceylon.

¹ This may prove to be the type of a new genus; from D'Orbigny's description it would seem to be intermediate in character between *Ceratosoma* and *Polycera*.

² Stimpson's diagnosis is:—"Limaciform, smooth. Similar to *Polycera*, but different in wanting branchial appendages and a veil. Branchiæ likewise simple." It seems to me that there is little doubt that this is synonymous with Kelaart's genus. The name *Trevelyan*, however, has been generally employed, although enunciated three years subsequently to *Gymnodoris*; and, moreover, we cannot be quite sure of their identity until Stimpson's specimens be properly examined.

³ Mr. Pease's *Stenodoris* does not appear to differ essentially from Kelaart's genus. He states that "the body is deeply incised on either side, a short distance behind the dorsal tentacles," and that the branchiæ are "subretractile."

2. *TREVELYANA BICOLOR*, Ald. & Hanc. Trans. Zool. Soc. vol. v. p. 132, pl. 29. f. 11, 12 (1864).

Hab. Madras coast.

3. *T. IMPUDICA*.

Doris impudica, Rüpp. & Leuck. *l. c.* p. 33, T. 10. f. 2.

Hab. Red Sea.

4. *T. LIMACINA*.

D. limacina, Quoy & Gaim. Voy. de l'Astrol. Zool. ii. p. 252, pl. 16. f. 8, 9 (1832).

Hab. Amboina.

5. *T. MOROSA*, Bergh, Semper's Reise, 2te Th. 2te Bd. Heft v. T. 25. f. 9.

Hab. Philippine sea.

6. *T. CONCINNA*, Abraham, *l. c.* p. 145, pl. 7. f. 8, 8 *a*, 8 *b*.

Hab. Red Sea (Gulf of Suez).

7. *T. PICTA*, Pease, Am. Journ. Conch. vi. p. 301, pl. 20. f. 1 (1872).

Hab. Huaheine.

8. *T. MACULATA*.

Gymnodoris maculata, Stimpson, Proc. Ac. Nat. Sci. Phil. vii. p. 379 (1855).

Hab. Loo Choo.

9. *T. RUBRA*.

Stenodoris rubra, Pease, *l. c.* vol. ii. p. 206, t. 4. f. 2 (1866).

Hab. Pacific Islands.

10. (?) *T. sp.?*, Bergh, figured in Semper, *l. c.* T. 33. f. 5 (1874).

Hab. Philippine sea (?).

11. (?) *T. sp.?*, id., figured in Semper, *l. c.* f. 6.

Hab. Philippine sea (?).

Gen. NEMBROTHA, Bergh.

In Semper's 'Reise im Archipel der Philippinen,' Bd. ii. Heft ix. (1875) T. 41, M. Bergh figures a Nudibranch, apparently resembling a *Trevelyana*, under the name *Nembrotha citrina*. As no particulars accompany the drawing, the characteristics of the genus cannot here be given.

N. CITRINA, Bergh, in Semper, *l. c.* T. 41. f. 5.

Hab. Philippine seas (?).

§ B. *Rhinophores non-retractile. Odontophore narrow.*
(STENOGLOSSÆ.)

Gen. GONIODORIS, Forbes (1840).

Doriprismatica, D'Orb. (1837, part of) ; *Pelagella*, Gray (1850).

Body rather depressed ; mantle distinct with waved or scalloped margin. Rhinophores laminated. Oral tentacles flattened. Branchiæ non-retractile. Odontophore with four plates in each transverse row ; the two next the median line bearing each a large spine ; no central plate. A spinous buccal collar.

1. G. NODOSA, Forbes.

? *Doris electrina*, Pennant (1777) ; *Doris nodosa*, Montagu, Linn. Trans. ix. p. 107, pl. 7. f. 2 (1804) ; *G. emarginata*, Forbes ; *D. barvicensis*, Johnston.

G. elongata, Thompson ; *Doriprismatica nodosa*, H. & A. Adams.
Hab. Shores of N. Europe.

2. G. DANIELSSENI, Friele & Hansen, Bidr. til Kundsk. om de Norsk. Nudibr. p. 4 (1875).

Hab. Bergen.

3. G. CASTANEA, Ald. & Hanc. Ann. & Mag. Nat. Hist. xvi. p. 314 (1845).

Doris paretii, Verany ; *Pelagella paretii*, Gray.

Goniodoris paretii, Ver. ; *Doriprismatica paretii*, H. & A. Adams.

Hab. British and Norman coasts, and the Mediterranean.

4. G. MODESTA, Ald. & Hanc. Trans. Zool. Soc. v. p. 132, pl. 28. f. 12 (1864).

Hab. Coast of Madras.

5. G. CITRINA, id. *l. c.* p. 131, pl. 32. f. 1-3.

Hab. Coast of Madras.

6. G. ASPERSA, id. *l. c.* p. 131, pl. 33. f. 2.

Hab. Coast of Madras.

7. G. ? sp.

Pelagella, sp., "a drawing by M. Ørsted," Mörch, Journ. de Conch. xi. p. 35 (1863).

Hab. Santa Cruz.

8. G. ? FLAVIDULA¹, Bergh, in Semper's Reis. &c., Heft. v. T. 25. f. 10 (1873).

Hab. Philippine sea.

¹ No description given. The figure resembles *Chromodoris* ; but the rhinophores are apparently non-retractile.

9. GONIODORIS? VERRUCOSA¹.

G. verrucosa, Crosse, Journ. de Couch, xii. p. 56, pl. 5. f. 4 (1864).

Chromodoris verrucosa, Bergh.

Hab. Port Jackson.

Gen. AËTHEDORIS.

Alder & Hancock figure in vol. 5 of the Zoological Society's 'Transactions,' a form belonging to a new genus "apparently related to *Goniodoris*." As no specimen came into their hands, they could give no description. The most striking characteristic, seen in the drawing, is the expansion of the bilobed head, each lobe being semi-crescentic, with the apex curving backwards and the margin bearing 12 to 14 conical dentations.

A. INDICA.

Figured, Alder & Hanc. Trans. Zool. Soc. v. pl. 33. f. 20 (1864).

Hab. Madras coast.

Gen. IDALIA, Leuckart (1828).

Euplocamus, Philippi (1836, part of).

Body convex, smooth. Mantle indistinct, the margin bearing filaments, generally longest in front. The head is produced anteriorly. Rhinophores linear, laminated. Branchiæ simply pinnate, non-retractile. Odontophore with 4 spines in each transverse row, the two middle ones large, no central spines. A spinous buccal collar.

Messrs. Alder & Hancock have thus divided the species:—

a. *Centre of back with filaments. Inner lingual spines falcate and nearly smooth; external spines short. Spinous collar complete.*

1. I. ELEGANS, Leuck. Brev. An. quor. Descr. p. 15, f. 2 (1828).

I. laciniosa, Phil. *Euplocamus laciniosus*, id.

Hab. Mediterranean; coast of France and Channel Islands.

2. I. LEACHII, Ald. & Hanc., figured Mon. pl. 27.

I. elegans, Alder, Trans. Tynes. Club, i. p. 112 (1848).

Hab. British coasts.

3. I. CIRRIGERA, Phil. En. Moll. Sic. ii. p. 77, t. xix. f. 4 (1844).

Hab. Sicilian shores.

4. I. TENTACULATA, Stimps. Proc. Ac. Nat. Sc. Phil. vii. p. 379 (1855).

Hab. China.

¹ The figure seems to show that the rhinophores are retractile; if so the animal cannot be a *Goniodoris*; there is no means of judging as to the retractility of the branchiæ, which are "voluminous and ramifying" and therefore probably not belonging to *Chromodoris*. The elongated tubercles covering the body and the sober coloration are also not characteristics of a *Chromodoris*.

- b. *Centre of back without filaments. Inner lingual spines recurved and denticulate; external spines hooked. Spinous collar incomplete and bilobed.*

5. *IDALIA ASPERSA*, Ald. & Hanc., Mon. Br. Nud. Moll. p. 46, pt. 1, fam. 1. pl. 26 (1845).

I. cirrigera, Lovén. ? *I. caudata*, Ærst.

Hab. North European coasts.

6. *I. INÆQUALIS*, Forbes & Hanl. Brit. Moll. iii. p. 579, pl. 20. f. 4 (1853).

Hab. Shetland Isles.

7. *I. QUADRICORNIS*, Forbes & Hanl.

Doris quadricornis, Montagu, Linn. Trans. xi. p. 17, pl. 4. f. 4 (1815).

Hab. South coast of England (Devonshire).

8. *I. PULCHELLA*, Ald. & Hanc. *l. c.* p. 46, and Append. p. v (1855).

Hab. South coast of England (Cornwall).

Genus *ANCULA*, Lovén, 1846.

Miranda, Alder & Hancock, 1847; *Drepania*, Lafont, 1874.

Body limaciform, smooth. Mantle obsolete, forming an indistinct ridge near the branchiæ, bearing one or more appendages. Rhinophores laminate, bearing styliform basal appendages. Head produced at the sides into tentacular processes. Odontophore with four spines in each transverse row, the two next the median line large and broad, with the inner margin denticulated; no central spine. A spinous buccal collar.

M. Lafont states his *Drepania* to differ from *Ancula* in the head bearing two elongated tentacles analogous to those of *Eolis*, in the branchiæ not being surrounded by linear appendages, and in the rhinophore carrying but one filament instead of two. Unless the lingual characters prove to be importantly different from those of *Ancula*, it would seem advisable to unite *Drepania* with the latter genus.

a. *With several appendages near the branchiæ.*

1. *A. CRISTATA*, Lovén.

Polycera cristata, Alder, Ann. & Mag. Nat. Hist. vi. p. 340, t. ix. f. 10-12 (1841).

Miranda cristata (*Ancula cristata* in text), Ald. & Hanc.

Hab. North European shores.

2. *A. SULPHUREA*¹, Stimpson, Mar. Inv. of Grand Manan, p. 26 (1853).

Hab. Eastern North America (Grand Manan).

¹ It is doubtful whether this be not a variety of *A. cristata*.

b. *With but one pair of appendages near the branchiæ.*

3. *ANCULA FUSCA.*

Drepania fusca, Lafont, Journ. de Conchyl. xxii. p. 369 (1874).
Hab.

Gen. *POLYCERA*, Cuvier, 1817.

Themisto, Oken, 1815 (part of); *Cufæa*, Leach, 1820; *Polycere*, Risso, 1826; *Polycerus*, Verany, 1846.

Body limaciform. Mantle indistinct, forming a supracapital veil, and a tuberculate ridge on the sides. Rhinophores laminated. Branchiæ non-retractile, with lateral appendages. Odontophore with twelve to sixteen plates in each transverse row, the two near the centre large and bicuspid; no central spine. Lateral corneous jaws.

Messrs. Alder and Hancock classify the species under two well-marked divisions.

a. *Supracapital veil dilated, with the margin bearing tentacular filaments. Branchiæ simply pinnate; their lateral appendages elongated and few.*

1. *P. QUADRILINEATA*, Sars.

Doris quadrilineata, Müller, Zool. Dan. Prod. p. 229 (1776).

D. cornuta, Abildg.; *D. flava*, Mont.; *Themisto quadrilineata*, Oken; *T. flava*, id.; *Cufæa flava*, Leach; *Polycere flava*, Risso; *Polycera flava*, Fleming; ? *P. varians*, Sars; *P. ornata*, D'Orb.; *P. typica*, Thompson; *P. cornuta*, Lovén.

Hab. North and south European coasts.

2. *P. HORRIDA*, Hesse, Journ. de Conch. xx. p. 345 (1870); figured, xxi. pl. 12. f. 1, 2.

Hab. French coast.

3. *P. PLEBEJA*, Lovén, Ind. Moll. Scand. p. 6 (1846).

Hab. West Scandinavian shores.

b. *Supracapital veil short, bilobed, the margin tuberculate. Branchiæ plumose, their lateral appendages tubercular and more numerous.*

4. *P. OCELLATA*, Ald. & Hanc. Ann. & Mag. Nat. Hist. ix. p. 33 (1842).

? *Triopa nothus*, Johnston; *P. (Palio) ocellata*, Mörch.

Hab. North European coasts.

5. *P. LESSONII*, D'Orbigny, Mag. de Zool. vii. p. 5, pl. 105 (1837).

P. citrina, Alder; *Doris illuminata*, Gould; *P. modesta*, Lovén; *Ægires lessonii*, Gray; *P. illuminata*, Stimpson.

Hab. North European coast, and Eastern North America (Massachusetts).

6. *P. PUDICA*, Loven, *l. c.* p. 6.

Hab. West Scandinavian shores.

7. *POLYCERA DUBIA*, Sars, Bidrag, p. 13, t. 2. f. 5, 6 [*sec.* Sars, Besk. og Iagtt. 1835].

Idalia dubia, Gray.

Hab. Norway (Bergen).

8. *P. COOKI*, Angas, Journ. de Conch. xii. p. 58, pl. 5. f. 6 (1864).

Hab. Australia (Botany Bay).

9. *P.?* *CAPENSIS*¹.

Polycera capensis, Qu. & Gaim. in Freycinet, Voy. des Corv. l'Uranie et la Physic., Zool. p. 417, pl. 66. f. 4 (1824).

Hab. Cape of Good Hope.

Gen. BRACHYCHLANIS, Ehrenberg, 1831.

Mantle very small, forming a dorsal arena, with narrow upturned border. Rhinophores laminated, arising in front of the mantle-margin. Branchiæ retractile. Mouth terminal.

B. PANTHERINA, Ehr. Symb. Phys., An. evert. excl. ins.

Hab. Red Sea.

Fam. III. DORIDOPSIDÆ, Alder and Hancock, 1864.

Doris-like Mollusca, without well-developed spicula in the integument, with the mouth suctorial, opening on the front margin of the foot, with a retractile proboscis, but destitute of odontophore, jaws, or spinous collar.

The absence of an odontophore, so generally possessed by the cephalophorous Mollusca, justified Messrs. Alder and Hancock in raising this group to the rank of a family.

Gen. DORIDOPSIS, Alder & Hancock, 1864.

Doriopsis, Pease, 1860; *Rhacodoris*, Mörch, 1863 (part of); *Haustellodoris*, Pease, 1871.

Body more or less depressed, ovate or elliptical. Mantle ample, covering the head and the foot, smooth or with soft tubercles, and without marginal appendages. Rhinophores laminated and retractile within cavities. Head indistinct, generally with two small lateral lobes, but without proper oral tentacles. Branchiæ generally ramose, retractile with the anus into a common cavity.

This genus, as thus characterized, was first constituted by Alder and Hancock. Mr. Pease's "*Doriopsis*" had previously been published; but, as defined by him², no one could consider it

¹ The description and drawing are too imperfect to determine whether this is a *Polycera* or not.

² "Oblong or oval, depressed. Mantle large, covering head and foot. Dorsal tentacles two, lamellated and retractile, non-pedunculate. Orals none. Branchial plumes disposed in the form of a semicircle, on the posterior portion of the back, and retractile into a similarly formed slit, the convex portion posteriorly."—PEASE, 1860.

identical with *Doridopsis*. In 1871 Mr. Pease still adhered to his own genus; and he did not consider it synonymous with Alder and Hancock's, for which he at the same time proposed the name *Haustellodoris*.

While agreeing with M. Bergh that Mr. Pease's forms are probably species of Alder and Hancock's genus, we cannot follow him in adopting "*Doriopsis*" as the generic name, not only because none but Mr. Pease's own species, about which we cannot always feel sure, will fall under that genus as defined by him, but also because the root of "*Doris*" is "*Dorid-*," and not "*Dori-*;" so that "*Doridopsis*" is more correct etymologically than "*Doriopsis*."

*List of Species*¹.

1. *DORIDOPSIS RUBRA* (Kel. sp.), Ald. & Hanc. Trans. Zool. Soc. v. p. 126, pl. 31. f. 1, 2 (1864).

Doris rubra, Kelaart, Ann. & Mag. Nat. Hist. 3rd ser. iii. p. 298 (1859).

Doriopsis rubra, Bergh.

Hab. Coasts of Madras and Ceylon.

2. *D. FUSCA*, Ald. & Hanc. *l. c.* p. 126, pl. 31. f. 3.

Doriopsis fusca, Bgh.

Hab. Coast of Madras.

3. *D. GEMMACEA*, Ald. & Hanc. *l. c.* p. 126, pl. 31. f. 4-7.

Doriopsis fusca, Bgh.

Hab. Coast of Madras.

4. *D. CLAVULATA*, Ald. & Hanc. *l. c.* p. 127, pl. 31. f. 10-12.

Hab. Coast of Madras.

5. *D. TUBERCULOSA* (Qu. & G. sp.), Ald. & Hanc.

Doris tuberculosa, Quoy & Gaim. Voy. de l'Astr., Zool. ii. p. 248, pl. 16. f. 1, 2 (1832).

Actinodoris tuberculosa, Gray; *Doriopsis tuberculosa*, Bgh.

Hab. New Guinea and Coromandel coast.

6. *D. CARBUNCULOSA*.

Doris carbunculosa, Kel. *l. c.* p. 301.

Hab. Ceylon; India; Mauritius.

7. *D. PUSTULOSA*, Ald. & Hanc. Trans. Zool. Soc. v. p. 128, pl. 31. f. 8, 9.

Doriopsis pustulosa, Bgh.

Hab. Coast of Madras.

8. *D. ATROMACULATA*, Ald. & Hanc. *l. c.* p. 129, pl. 31. f. 20-24.

Doriopsis atromaculata, Bgh.

Hab. Coast of Madras.

¹ M. Bergh admits forty-four species in his list.

9. *DORIDOPSIS PUNCTATA*, Ald. & Hanc. *l. c.* p. 129, pl. 31. f. 17.
Doriopsis punctata, Bgh.
Hab. Coast of Madras.
10. *D. MINIATA*, Ald. & Hanc. *l. c.* p. 130, pl. 31. f. 18, 19.
Hab. Coast of Madras.
11. *D. GRANULOSA*.
Doriopsis granulosa, Pease, Proc. Zool. Soc. for 1860, p. 32.
Hab. Sandwich Islands.
12. *D. SCABRA*.
Doriopsis scabra, Pease, Am. Journ. Conch. vi. p. 300, pl. 19.
f. 2 *a-c*.
Hab. Tahiti.
13. *D. VIRIDIS*.
Doriopsis viridis, id. Proc. Zool. Soc. for 1861, p. 241, and Am. J. Conch. vi. pl. 19. f. 1 *a-c*.
Hab. Tahiti.
14. *D. NEBULOSA*.
Hexabranchus nebulosus, id. Proc. Zool. Soc. for 1860, p. 53.
Doriopsis nebulosa, Bgh. Journ. Mus. Godeff. viii. T. . f. 55,
and T. 11. f. 24.
Hab. Sandwich Islands.
15. *D. AFFINIS*.
Doriopsis affinis, Bgh. *l. c.* pp. 84 & 93, T. vii. f. 6-6, T. x. f. 22,
and T. xi. f. 2 (1875).
Hab. Tahiti.
16. *D. TRISTIS*.
Doriopsis tristis, id., Semper, Reis. im Arch. Phil. 2tes Bd.
2ter Th. t. xxxiii. f. 9.
Hab. Philippine Sea.
17. *D. RUBRILINEATA*.
Doris rubrilineata, Pease, Am. Journ. Conch. vii. i. p. 12, pl. 3.
f. 2 *a, b* (1871).
Hab. Tahiti.
18. *D. NIGRA* (Stimps. sp.), Ald. & Hanc. *l. c.* pl. 31. f. 13-16.
Doris nigra, Stimpson, Proc. Phil. Ac. Nat. Sc. vol. vii. p. 380
(1855).
Doris atrata, Kel.; *Doris atroviridis*, id.; *Doriopsis nigra*,
Bgh.
Hab. Loochoo Islands; coast of Madras; Ceylon.

19. DORIDOPSIS KREBSII.

Doris (*Rhacodoris*) *krebsii*, Mörch, Journ. de Conch. 3^e sér. iii. p. 34 (1863).

Doriopsis krebssii, Bgh.

Hab. St. Thomas; Santa Cruz.

20. D. LIMBATA.

Doris limbata, Cuv. Ann. du Mus. iv. p. 468, pl. 74. f. 3, 4 (1804).

D. virescens, Risso; *D. albolimbata*, Rüpp. & Leuck.; ? *D. lugubris*, Gravenhorst; *Dendrodoris limbata*, Gray; *Actinocyclus limbata*, H. & A. Adams; *Doriopsis limbata*, Bgh.

Hab. Mediterranean, Red Sea.

21. D. INDACUS, Tapparone-Canefri, Zool. del viagg. &c., Malacol. p. 114, t. i. f. 16 (1874).

Hab. Yokohama.

22. D. OBSCURA, sp. nov. (Plate XXX. figs. 29, 30).

Hab. —?

23. D. AUSTRALIENSIS, sp. nov. (Plate XXX. figs. 25, 26.)

Hab. New South Wales.

24. D. AUSTRALIS.

Actinodoris australis, Angas, l. c. p. 49, pl. 4. f. 8 (1864).

Doriopsis australis, Bgh.

Hab. New South Wales.

25. D. FUMEA, sp. nov. (Plate XXX. figs. 31, 32.)

Hab. —?

26. D. FÆDATA, sp. nov. (Plate XXIX. fig. 22.)

Hab. —?

27. D. INORNATA, sp. nov. (Plate XXX. figs. 33–35.)

Hab. Mediterranean.

28. D. TIGRINA.

Doris tigrina, Audouin, in Savigny's Descr. de l'Égypte, i. pt. iv. p. 13, pl. 1. f. 3 (1809).

D. punctata, Rüpp. & Leuck.; *Doriopsis? punctata*, Bgh.

Hab. Red Sea (Suez).

29. D. GIBBULOSA.

Doriopsis gibbulosa, Bgh. l. c. p. 86¹.

Hab. New Caledonia.

30. D. NICOBARICA.

*Doriopsis nicobarica*¹, id. l. c. p. 86.

Hab. Indian Ocean.

¹ No description or figure.

31. DORIDOPSIS SEMPERI.

Doriopsis semperi, Bgh. *l. c.* p. 86 ; and in Semper, *l. c.* Heft x. p. 386 (1876).

Hab. Philippine Sea.

32. D. MODESTA.

Doriopsis modesta, id. *l. c.* p. 86 ; and in Semper, *l. c.* p. 386.

Hab. Philippine Sea.

33. D. PELLUCIDA.

Doriopsis pellucida, id. *l. c.* p. 86 ; and in Semper, *l. c.* p. 386.

Hab. Philippine Sea.

34. D. PUDIBUNDA.

Doriopsis pudibunda, id. *l. c.* p. 86 ; and in Semper, *l. c.* p. 387.

Hab. Philippine Sea.

35. D. MACULIGERA.

Doriopsis maculigera, id. *l. c.* p. 86 ; and in Semper, *l. c.* p. 387.

Hab. Philippine Sea.

36. D. DEBILIS.

Doriopsis debilis, Pease, Am. Journ. Conch. vii. 1. p. 11, pl. 5. f. 2, 2 a (1871).

Hab. Huaheine.

37. D. COMPTA.

Doriopsis compta, id. *l. c.* p. 12, pl. 4. f. 1.

Hab. Apaiang.

38. D. SORDIDA.

Doriopsis sordida, id. *l. c.* p. 14, pl. 4. f. 2.

Hab. Tahiti.

39. D. FUSCESCENS.

Doriopsis fuscescens, id. *l. c.* p. 14, pl. 4. f. 3.

Hab. Maiao.

40. D. KRUSENSTERNII.

Figured in Krusenstern, Reise um die Welt, Atlas, T. lxxxviii. f. 1-4 (1813).

Actinodoris krusensternii, "Tilesius," Gray.

Hab.

41. D. TILESII.

Figured in Krus. *l. c.* Atlas, T. lxxxviii. f. 5, 6.

Actinodoris tilesii, "Tilesius," Gray.

Hab.

42. D. PARVA, sp. nov. (Plate XXX. figs. 27, 28.)

Hab. — ?

43. *DORIDOPSIS VARIATA*, sp. nov. (Plate XXIX. figs. 23, 24.)

Hab. Ningpo.

44. *D. SUBPELLUCIDA*, sp. nov. (Pl. XXX. fig. 36.)

Hab. St. Vincent.

45. *D. SPICULATA*, Bgh. in Semper, *l. c.* Bd. x. p. 387 (1876).

Hab. Philippine Sea.

46. *D. MAMMOSA*, sp. nov. (Plate XXIX. figs. 20, 21.)

Hab. ———?

47. *D.?* sp., Ald. & Hanc. *l. c.* note, p. 115.

Hab. Madeira.

The following are probably *Doridopsidæ*; but the published descriptions are almost too vague to determine with certainty.

48. *DORIDOPSIS? MAURITIANA*.

Doris mauritiana, Qu. & Gaim. Voy. de l'Astrol., Zool. ii. p. 269, pl. 20. f. 5-8 (1832).

Actinodoris mauritiana, Gray; *Doriopsis mauritiana*, Bgh.

Hab. Mauritius.

49. *D.?* *FUMOSA*.

Doris fumosa, Qu. & Gaim. *l. c.* p. 267, pl. 19. f. 14-17.

Actinodoris fumosa, Gray; *Doriopsis fumosa*, Bgh.

Hab. Mauritius.

50. *D.?* *VIOLACEA*.

Doris violacea, Qu. & Gaim. *l. c.* p. 264, pl. 19. f. 1-3.

Hab. Australia.

51. *D.?* *DENISONI*.

Doris denisoni, Angas, *l. c.* p. 45, pl. 4. f. 2.

Hab. Port Jackson.

52. *D.?* *AUREA*.

Doris aurea, Qu. & Gaim. *l. c.* p. 265, pl. 19. f. 4-7.

Hab. Australia.

53. *D.?* *AURITA*.

Doris aurita, Gould, Un.-St. Expl. Exp., "Moll. &c." p. 299, pl. 23. f. 394 (1852).

Hab. Feejee Islands.

54. *D.?* *NODULOSA*.

Doris nodulosa, Angas, *l. c.* p. 48, pl. 4. f. 6.

Hab. New South Wales.

55. DORIDOPSIS ? CARNEOLA.

Doris carneola, id. l. c. p. 48, pl. 4. f. 7.*Hab.* Port Jackson.

56. D. ? GRISEA.

Doris grisea, Kelaart, Ann. Nat. Hist. 3rd ser. iii. p. 297 (1859).*Hab.* Ceylon.

57. D. ? SPONGIOSA.

Doris spongiosa, id. l. c. p. 302.*Hab.* Ceylon.

58. D. ? CERISA.

Doris cerisa, id. l. c. p. 296.*Hab.* Ceylon.

59. D. ? SANDIEGENSIS.

Doris (Actinocyclus) sandiegensis, Cooper, Proc. Cal. Ac. Nat. Sc. ii. p. 204 (1862).*Hab.* West coast of North America (San Diego Bay).

60. D. ? VELUTINUS.

Actinocyclus velutinus, Ehrenberg, Symb. Phys. An. evert. excl. Ins.*Hab.* Red Sea (Massowah).

61. D. ? RUGOSA.

Doris rugosa, Pease, Proc. Zool. Soc. for 1860, p. 31.*Hab.* Sandwich Islands.

62. D. ? FÆTIDA.

Doris fœtida, id. l. c. p. 31.*Hab.* Sandwich Islands.

63. D. ? RETICULATA.

Doris reticulata, id. l. c. p. 26.*Hab.* Sandwich Islands.

64. D. ? VERRUCOSA.

Actinocyclus verrucosus, Ehr. l. c.*Hab.* Red Sea.

65. D. ? LUGUBRIS.

Doris (Dendrodoris) lugubris, id. l. c.*Hab.* Red Sea (Massowah).

66. D. ? CUPREA.

Doris (Dendrodoris) cuprea, id. l. c.*Hab.* Red Sea (Massowah).

67. D. ? GRANULATA.

Doris (Dendrodoris) granulata, id. l. c.*Hab.* Red Sea (Massowah).

68. *DORIDOPSIS* ? *DIARDI*.*Doris diardi*, Kel. *l. c.* iv, p. 267 (1859).*Hab.* Ceylon.69. *D.* ? *ELISABETHINA*.*Doris elizabethina*, id. *l. c.* p. 267.*Hab.* Ceylon.70. *D.* ? *MARIEI*¹.*Doris mariei*, Crosse, Journ. de Conch. 3^e sér. xv. p. 307, pl. 12. f. 1.*Hab.* New Caledonia, Noumea.71. *D.* ? *ROSSITERI*.*Doris rossiteri*, id. *l. c.* p. 309, pl. 12. f. 2.*Hab.* New Caledonia, Noumea.72. *D.* ? *FABREI*.*Doris fabrei*, id. *l. c.* p. 310, pl. 12. f. 3.*Hab.* New Caledonia, Nouméa.

*Descriptions of the new Species.*²*DORIS CORIACEA*, sp. nov. (Plate XXVII. figs. 1-4.)

Body much depressed, elliptic. Mantle very large, leathery, the border widely extended all round and subcrenulate; granular above from the presence of numerous close, minute, rounded, subequal tubercles. Rhinophores clavate, with numerous laminæ on the upper half, retractile within deep cavities, the margins of which are raised and denticulate at the edge. Branchiæ 6, tripinnate, set round the long, thin, tubular anus in a cavity having a 6-lobed completely contractile margin. Oral tentacles short and flattened. Foot narrow, with a shallow transverse groove in front, the upper lamina being rather enlarged and divided mesially.

The colour of the spirit specimens is in general brownish fawn, sometimes darker, and occasionally nearly white. On the upper surface irregular patches of minute black speckles are situated epidermically between the granular tubercles. In some specimens these black markings are nearly wanting; in others, they are over the whole

¹ Mr. Crosse gives no account of the oral apparatus of this or of the two following species. He considers that the latter may belong to Mr. Pease's genus *Doriopsis*.

² It is just possible that a few of the descriptions which follow may relate to forms already named by other observers. For reasons more than once alluded to, however, it is impossible to be certain of this either way; all that that can be said is, that none of the hitherto published diagnoses can be definitely referred to any of the following animals.

My descriptions would have been more minute had I been able to cut up the specimens: they belong, however, to the collection of the British Museum; and I did not feel justified in making any thing like complete dissections.

surface. Underneath, a close, black, minute freckling is usually found on and near the sides of the foot, but not elsewhere.

In a large spirit specimen the length was 82 millimetres, the breadth 59, the height (or thickness from the middle of the back to the sole of the foot) 15.

Hab. South Africa; Seychelles; Sir C. Hardy's Islands.

The mantle is highly spiculate, the spicula being numerous and close, crossing each other more or less at right angles, nearly straight and cylindrical in form, and with blunt ends. They are rather massed together in bundles.

The odontophore is comparatively small, and bears about 26 transverse rows of numerous small, well-curved, lateral spines.

DORIS INFRAMACULATA, sp. nov. (Plate XXVII. figs. 5-7.)

Body depressed, oblong-elliptic. Mantle leathery, finely granular above, with a wide, irregularly crenulate border. Rhinophores clavate, the apex pointed and bent rather backwards, laminated low down, their cavities with raised crenulate border. Branchiæ 6, tripinnate, spreading: the anus short, with its margin digitate; the general cavity has the edge raised, smooth, or sublobulate. Oral tentacles small, subconical, and grooved above. Foot oblong, truncate in front, rounded behind, with a small transverse anterior groove, having the upper lamina notched.

Colour of the spirit specimens light-brown, with irregular patches of dark-brown situated between the minute granular tubercles of the upper surface, principally upon the mantle-border. Underneath, upon the sides and upon the mantle-expansion, are some large and small chocolate-brown spots.

Length (in spirit) 50 millims., breadth 34.

Hab. Amboina.

The odontophore is proportionally larger than in *D. coriacea*: it bears about 30 transverse rows of lateral recurved spines.

DORIS INFRANEVATA, sp. nov. (Plate XXVII. fig. 8.)

Body oblong-elliptic, depressed. Mantle widely expanded all round, with a wavy and irregularly crenulate border, covered above with very minute granules. Rhinophores clavate, with the upper half diagonally laminate and conical, the lower rather swollen and marked with transverse striæ, retractile within cavities, with the margin raised, denticulate and contractile. Branchiæ 6, bipinnate; the anus long and tubular; the general cavity with the wall produced, 6-lobed, and completely contractile. Oral tentacles sublinear, flattened, or longitudinally indistinctly grooved on the upperside. Foot oblong, rounded before and behind; transversely grooved, with the upper lamina notched, in front.

Colour (in spirit) light brownish; above, sparingly clouded with epidermic intergranular brown; beneath, with scattered, unequal, dark-brown freckles upon the mantle-expansion all round, near the foot.

Length (of a large specimen in spirit) 42 millims., breadth 28.

Hab. Mediterranean Sea.

DORIS TABULATA, sp. nov. (Plate XXVII. fig. 9.)

Body very flat, oblong, rounded before and behind. Mantle widely expanded all round, the border subcrenulate and rather undulate at the extreme edge, covered above with very minute, close, granular tubercles, the surface being, nevertheless, smooth to the touch. Rhinophores small, close together, retractile into cavities which have the border slightly raised, denticulate and contractile. Branchiæ 6, small, tripinnate, retractile within a cavity protected by six procumbent contractile lobes. Oral tentacles short and subcylindrical. Foot small, very narrow, grooved in front, with the upper lamina notched.

General colour (in spirit) light brown, with a dusky patch on the back and on the sole of the foot; above, on the mantle-expansion, are patches of brown, minute, epidermic, intergranular reticulations.

Length (in spirit) 55 millims., breadth 35, height 7.

Hab. —?

The mantle-spicules are numerous and close, with blunt ends; some are straight, others more or less bent.

DORIS HEPATICA, sp. nov. (Plate XXVIII. fig. 9, diam. $\frac{1}{2}$.)

Body oval-oblong, rather depressed. Mantle expanded all round, thick and fleshy, with the border irregularly subcrenate and undulating; smooth to the touch, covered above with minute, close, granular, soft, unequal, rounded tubercles. Rhinophores clavate, retractile into wide cavities, with the margins denticulate, although but little raised. Branchiæ 6, tripinnate, rather short, retractile in a cavity with the edge raised and irregularly 6-lobed. Oral tentacles short, flat, subconic in outline. Foot broadest in the middle, about one third the width of the mantle, rounded at both ends, anteriorly grooved, with the upper lamina expanded and widely notched in the centre.

The general tint of the spirit specimen is a dark liver-colour.

Length (in spirit) 90 millims., breadth 5-4.

Hab. Pacific Ocean (Riciniola).

The mantle is well furnished with spicules, which are irregularly cylindrical and with rounded ends; they are of different sizes, but none very large.

DORIS MABILLA, sp. nov. [Bergh *in sched.*]. (Plate XXVIII. figs. 1-4.)

Form depressed, elliptic; mantle large, thick, fleshy, gradually thinning to a subcrenulate edge; raised upon the upper surface into large, irregular, flattened pustules, which, in the larger specimens, become rugose upon the summit. Rhinophores with the upper half diagonally laminated, conical, and bent rather backwards, their pedicels long and somewhat slender; the cavities have the margins raised into subcrenate-edged sheaths. Branchiæ 6, large, tripinnate, spreading, set round the tubular anus in a cavity which has the margin divided into 6 large procumbent lobes. Oral tentacles flat and rather leaf-like. Foot long and narrow, truncated and transversely

slit in front, with the upper lamina enlarged and divided in the middle; rounded behind, and not reaching to the mantle-edge.

Colour (of the spirit specimens) mottled greyish brown above, with the pustules generally much lighter, except on their summits; beneath, the colour is a light grey, shading into brownish towards the margin; a broad irregular band of chocolate-colour, often more or less composed of large confluent blotches, extends all round, except quite posteriorly, on the mantle-expansion, not quite $\frac{1}{2}$ halfway between the foot and the edge. The foot is chocolate-brown, with a lighter band round the border. The large specimens are generally darker.

Length (of an average spirit specimen) 95 millims., breadth 62, breadth of foot 22.

Hab. Seychelles; Samoa.

The mantle-spicules are long and very slender: they are occasionally subnodular towards the ends, which are but little acuminate.

The mouth opens into a large fleshy pharynx, upon each side of which is a rather small chitinous plate, and which becomes inwards rather cartilaginous and longitudinally plicated.

The odontophore is broad, with about 26 transverse rows of numerous lateral spines, which are short, hook-shaped, the base of each being elongated, laterally flattened, and slightly knobbed at the anterior angle.

DORIS SUBTUMIDA, sp. nov. (Plate XXVII. figs. 10, 11.)

Body elliptic, inflated on the back. Mantle large and expanded all round, the border wavy and subcrenulate at the edge, covered above with minute granules. Rhinophores clavate, short, the upper two thirds laminated, the apex somewhat truncated and mucronate; retractile within large cavities, of which the margins are prolonged and lobulate. Branchiæ 6, rather short, tripinnate, set round the short tubular anus, which is just in front of the division between the two hindermost plumes; the general branchial cavity is deep, with the wall produced and lobulate. Oral tentacles long, linear, and grooved above. Foot broadest in the middle, rounded in front and behind, with an anterior transverse groove and notched upper lamina.

Colour of the spirit specimen light brown, covered above (very thickly on the sides) with dark brown epidermic intergranular clouding. The rhinophores and ramifications of the branchiæ are purplish brown. Below, the tint is yellowish, with an orange tinge on the foot, and with scattered unequal purplish-brown spots and freckles all over the pallial expansion, except at the extreme border.

Length (in spirit) 55 millims., breadth 38, height 14.

Hab. Mediterranean Sea.

The spicules are slender, moderate in size, numerous, and close.

DORIS SPECIOSA, sp. nov. (Plate XXVIII. figs 10, 11.)

Body elliptic. Mantle widely expanded all round, leathery, granular above, from the presence of numerous close minute tubercles;

the border crenulate. Rhinophores elongate-conical, upon a contracted base, with minute numerous laminae extending far down, retractile into deep cavities, which have the openings raised into denticulated sheaths. Branchiæ 7, bipinnate, spreading; along the internal face of each plume lie a central midrib and two lateral longitudinal bordering veins; between these extend delicate upright laminae, which, towards the free end of the plume, become developed into branches. The anus is short, with the aperture somewhat fimbriate and dentate. The branchial cavity has the border raised and indistinctly lobulate. Oral tentacles short, subconical, and rather grooved above. Foot narrow, widest across the middle, with an anterior transverse groove, the upper lamina of which is deeply notched, a little enlarged, and bearing one or two terminal papillæ at each side of the notch. The foot becomes acuminate, small, and free behind.

Colour of the spirit specimen light brownish, closely and irregularly blotched with reddish brown on the back, and with darker unequal spots upon the mantle-expansion. Branchiæ and rhinophores light brown. Underneath, the general tint is yellowish brown, with an orange tinge upon the foot, and with a few large unequal round or oval black spots upon the sides of the body and upon the neighbouring portion of the mantle; some smaller spots are upon the sides of the foot.

Length (in spirit) 45 millims., breadth 32, height 10.

Hab. Amboina.

The mantle-spicules are numerous, slender, elongated, cylindrical, and interlacing.

DORIS STRAGULATA, sp. nov. (Plate XXVIII. figs. 7, 8.)

Body oval, convex on the back. Mantle very large, soft, thick, and fleshy, especially on the expanded border, the edge of which is irregularly crenate: it is thickly covered above with small, unequal, rounded tubercles; beneath, it is smooth. The rhinophores are short and clavate, with rounded and somewhat mucronate tips: their cavities have the margins produced into wide tuberculated fleshy sheaths. Branchiæ 6, short, tripinnate, closely embracing the short tubular anus, and retractile into a deep cavity with a 6-lobed margin. Oral tentacles flat, linear, and pointed. Foot comparatively small, oblong, rounded at both ends; anteriorly with a deep transverse slit, having the upper lamina expanded, mesially divided by a large triangular notch, and more or less lobulated. The outline of the lower lamina is rather crenulate.

General colour (in spirit) a mottled grey, lighter upon the mantle-expansion, the darker tint being formed by a minute dotting between the tubercles. The rhinophores are grey, with whitish tips; the branchiæ greenish mottled grey. On the under surface a broad mottled brown band is situated all round between the foot and the mantle-margin. The latter is yellowish, and the wavy line of demarcation is tolerably distinct. The oral tentacles are yellowish, and the foot brown and blotchy except on the edge.

Length (in spirit) 72 millims., breadth 46, height 14; width of mantle-expansion 13 laterally, 22 posteriorly.

Hab. —?

Mantle-spicules rather small, slender, and spindle-shaped.

DORIS VESTITA, sp. nov. (Plate XXVIII. figs. 5, 6.)

General form elliptic, very convex on the back. Mantle ample, fleshy, widely expanded all round, in broad waves or folds at the border, covered closely on the upper surface with small, elongated, conical or slightly clavate, semitransparent tubercles, which are somewhat larger upon the marginal expansion. Rhinophores clavate, laminated for four fifths of their length, the laminae being diagonal, about 14 in number, and lying between slight anterior and posterior longitudinal depressions; the apices are truncated, and bear a broad simple terminal style; the cavities into which they are retractile are produced into short tuberculated sheaths with toothed edges. Branchiae 7, short, broad, tripinnate, not very distinctly separated from each other, and set in a circle, interrupted behind, around a tubular anus: the wall of the cavity into which they are retractile is somewhat raised and irregularly denticulate at the margin¹. Oral tentacles small, elongated, and conical. Foot about one third as broad as the mantle, rounded in front, with a deep transverse groove, the upper lamina of which is mesially divided; the posterior end is acuminate, and does not extend as far as the mantle-edge.

The general colour of the spirit specimens is a yellowish or light brown, with an orange or pinkish tinge upon the foot.

Length (in spirit) 42 millims., breadth 32, height 15.

Hab. Straits of Magellan.

The pallial spicules are slender, comparatively rather small, tolerably straight, and numerous.

The odontophore is very small: there are about 13 transverse rows of numerous elongated recurved spines, none of them central in position.

DORIS MURREA, sp. nov. (Plate XXVIII. figs. 12-14.)

Body elliptic, oblong, rather convex. Mantle ample, cartilaginous, the border expanded and rather thick; the surface granular and gritty to the touch from the close covering of minute, unequal, rounded, hard tubercles. Rhinophores far forward, small, clavate, the laminae proceeding from a posterior longitudinal ridge; their cavities are with slightly raised and minutely denticulated margin. Branchiae 6, slender, bipinnate, set far back, closely around a very small tubular anus, in a deep cavity, which has the margin raised, denticulated, and completely contractile. Oral tentacles small, conical, and pointed. Foot oblong, transversely grooved in front, with the upper lamina rather enlarged and notched.

¹ In one specimen the branchiae seem to be more numerous in consequence of their indistinct separation and of the prolongation of their lower branches. The sheath of the branchial cavity is also more deeply and distinctly toothed.

Colour (in spirit) white, with an opaque greyish marbling on the upper surface.

Length (in spirit) 36 millims., breadth 20, height 10.

Hab. Mauritius.

The mantle-spicules are small, slightly bent, with the surface a little nodular or rough.

Odontophore broad, with numerous short hook-shaped spines, the bases of which are laterally flattened.

DORIS GRANULOSA, sp. nov. (Plate XXIX. figs. 1-3.)

Body oblong-elliptic, not very depressed. Mantle ample, presenting a granular appearance from a close covering of small, sessile, unequal, rounded tubercles. Rhinophores minutely laminated, rather slender, subconical or pyriform (in one specimen the apices are slightly enlarged and rounded); their cavities are wide, and have the margins produced into short tuberculated and denticulated sheaths. Branchiæ 8, rather short, slender and spreading, bipinnate, surrounding the short tubular anus in a circle interrupted behind; the two hindermost plumes are deeply divided; the margin of their common cavity is nearly smooth. Oral tentacles small, free, flat, and linear. Foot oblong, truncated and transversely grooved in front, with the upper lamina deeply notched, the lower slightly so; the posterior extremity is rounded, and the border flattened.

Length (in spirit) 17 millims., breadth 11.

The colour of the preserved specimens is a dirty yellowish.

Hab. New Zealand.

The mantle-spicules are small, very short, and spindle-shaped.

Odontophore broad, with numerous lateral spines, which are comparatively large and recurved at an angle.

DORIS LONGULA, sp. nov. (Plate XXIX. figs. 4, 5.)

Body oblong, rounded at both ends. Mantle ample, covered with a minute, subequal granulation. Rhinophores short, broad, and apparently conical; their cavities with the apertures simple, and not produced. Branchiæ 12, small, slender, bipinnate, in a complete circle round the tubular anus; retractile in a wide cavity with minutely and irregularly denticulated margin. Oral tentacles small and linear. Foot oblong, rounded at the ends, transversely grooved in front, with both laminae notched; it reaches behind to the edge of the mantle; and its border is free and flattened.

Length (in spirit) 18 millims., breadth 7.

Colour (in spirit) a dirty cream.

Hab. New Zealand.

DORIS CUCULLATA, sp. nov. (Plate XXIX. figs. 11, 12.)

Body oblong, raised. Mantle widely expanded, somewhat like a hood, over the head; elsewhere with the border but little developed, and not extending down to the foot laterally or posteriorly; it is closely covered with small, subequal, conical tubercles. Rhinophores (their form not determinable in the specimen) retractile within large

deep cavities having the margin produced into short, wide, tuberculated sheaths. Branchiæ plumose, situated in a cavity very far back, their number not determinable in the specimen; but apparently they are not very numerous. Oral tentacles linear, pointed. Foot elongate, nearly as broad as the body, rounded and transversely grooved in front, with the upper lamina raised and notched; acuminate and produced beyond the mantle at the back.

Colour of the spirit specimen light greyish brown, blotched with reddish in front of the rhinophores and near the branchiæ.

Length (in spirit) 21 millims., breadth 8, height 7.

Hab. —?

DORIS ANALAMPULLA, sp. nov. (Plate XXIX. figs. 8-10.)

Body oval, convex. Mantle large, with a thin wavy border extending all round, closely covered with minute, subequal, rounded, granular tubercles. Rhinophores clavate, with rounded apices and minute diagonal laminæ extending far down; their cavities with the margin raised and tuberculated. Branchiæ 7, small, indistinctly bipinnate, set, at a little distance, around a long, tubular, bottle-shaped anus, which is situated almost in the interval between the two hindermost plumes; the whole retractile in a cavity with slightly raised border. Oral tentacles small, linear, and pointed. Foot elliptic-oblong, rounded before and behind, indistinctly grooved in front, flattened at the border, especially posteriorly, where it is nearly co-extensive with the end of the mantle.

Colour (in spirit) semitransparent white, with a yellowish tinge on the back.

Length (in spirit) 15 millims., breadth 10.

Hab. Australian seas.

DORIS LABIFERA, sp. nov. (Plate XXIX. figs. 13, 14.)

Body oblong. Mantle not much extended beyond the foot, but ample in front of the head, covered with close, small, unequal, rounded tubercles, which become smaller upon the border. Rhinophores short, clavate, with a slight longitudinal depression in front, from which the laminæ arise; their cavities with slightly raised tuberculated margins. Branchiæ 6, short, tripinnate, embracing in a complete circle the central short tubular anus; the divisions between the plumes do not extend far down, except in the case of the two hindermost; the cavity into which they are retractile has the margin raised into a short, tuberculated, denticulated sheath. Oral tentacles small, elongate, conical, and pointed. Foot oblong, truncated and transversely grooved in front, with the upper lamina notched; behind, it is narrower and rounded, and reaches as far as the posterior edge of the mantle; the border is flattened and minutely tuberculated above.

Colour (in spirit) purplish grey, with dark blotches and mottling, produced by a minute purple dotting between the tubercles; the midribs of the branchiæ are violet-grey, from a similar minute freckling; the other parts of the branchiæ and the rhinophores are

yellowish. Beneath, there is a small, unequal, dark freckling, with larger spots upon the foot, and especially upon the upper surface of its border; the ground-colour of the foot is yellowish.

Length (in spirit) 32 millims., breadth 19.

Hab. The Seychelles.

In two of the specimens the mantle is broader, and the spots upon the under surface are larger on the mantle than on the foot; in one of them the tubercles are smaller, more conical, or subclavate, and the rhinophores are more massive, the purple of the branchial mid-ribs is also more decided and not produced solely by a minute freckling; in the other the foot is comparatively very small, and the lateral and posterior border of the mantle is widely expanded and fleshy.

The mantle-spicules are rather small, spindle-shaped, and generally more or less bent.

Odontophore broad, with about 19 rows of numerous, strongly reflected spines, none of them mesially placed.

DORIS LANUGINATA, sp. nov. (Plate XXIX. figs. 15-17.)

Body ovate, rather convex. Mantle large, expanded all round, with a wavy irregularly crenate border; it is covered closely with numerous, small, soft, linear tubercles. Rhinophores clavate, short, thick, truncated at the apices, and with numerous fine lamellæ extending far down; they are retractile within large, wide, denticulated and tuberculated sheaths. Branchiæ 5, short, broad, tripinnate, set deeply in a pallial cavity with raised denticulate margin; the short tubular anus is situated almost between the two posterior plumes. Oral tentacles flat, spatulate, and longitudinally grooved above. Foot oblong, rounded at both ends, with a deep transverse slit in front, the upper lamina divided, and with a short process in the middle; flattened, and with crenulate edge at the sides and posteriorly.

Colour of the spirit specimen dirty greyish brown, mottled with darker, the dark shade prevailing over the upper surface, except on the more central dorsal area. Below, the tint is uniform and lighter, with the exception of a few dark-brown spots; the upper surface of the border of the foot is freckled and sparsely spotted with dark brown.

Length (in spirit) 33 millims., breadth 23, height 13.

Hab. New Zealand.

The mantle-spicules are small, short, and often a little bent.

DORIS COLLATATA, sp. nov. (Plate XXIX. figs. 25, 26.)

Body elliptic, convex on the back. Mantle very large, soft, produced into a thin, wavy, crenulate border, and covered with numerous, small, unequal, rounded tubercles; the under surface is subgranular. Rhinophores short, thick, clavate, rounded at the tips, with numerous fine laminæ reaching down to the short pedicle, and retractile within wide cavities which have the margins produced and denticulated. Branchiæ 8, tripinnate, the lateral ones longest; the two most pos-

terior arise from the bases of the neighbouring plumes; the anus is tubular; the whole system is retractile into a cavity with a thin produced and crenate margin. Oral tentacles small, elongate, conical, and rather flattened. Foot much narrower and smaller than the mantle, truncated and grooved, with the upper lamina enlarged and divided in front.

General colour of the spirit specimens olive, with indistinct brownish patches on the mantle-border and on the foot.

Length (in spirit) 57 millims., breadth 42, height 12; width of lateral mantle-expansion about 16 millims.

Hab. Port Essington.

The mantle-spicules are rather small, spindle-shaped, and interlaced in bundles; they are absent in the extreme border of the mantle.

Odontophore broad, with the numerous lateral spines reflected and bearing one or two small denticulations at the angle.

DORIS MUSCULA, sp. nov. (Plate XXIX. figs. 6, 7.)

Body elliptical, convex. Mantle covering the head and the foot, but not laterally flattened or extended into a border; it is covered above with very small, close, equal, elongated, linear or subclavate tubercles. Rhinophores (not visible in the specimen) retractile into cavities, of which the mouths are produced into short tuberculated sheaths. Branchiæ 9, small, simply pinnate, or bearing lateral laminae, and compressed; the margin of the cavity into which they are retractile is fringed with small elongated tubercles. Oral tentacles rather flat and linear. Foot oblong, rounded at the ends, with a deep transverse groove in front, the upper lamina being thin and mesially divided; it does not extend behind as far as the mantle-edge.

Colour of the spirit specimen greyish, with a yellowish tinge beneath; on the back is a longitudinal band of faint reddish brown, extending from between the rhinophores nearly as far as the branchiæ, and bordered on each side by an equally broad indistinct blue band, shading into grey on the outer sides; the two latter bands join together between the rhinophores and before the branchiæ. The coloration of these bands is produced by a very minute close freckling between the small tubercles.

Length (in spirit) 13 millims., breadth 9, height 5.

Hab. New Zealand.

DORIS PUSTULATA, sp. nov. (Plate XXIX. figs. 18, 19.)

Body oblong-elliptic, rather convex. Mantle large, extending everywhere beyond the foot, and bearing large, separate, sessile, clavate, flattened, rounded, opaque tubercles, some smaller than others, which become more numerous and smaller upon the border. Rhinophores short, clavate, rounded, retractile through short sheaths which have the margins furnished with three tubercular processes—one on each side, and the third posterior and smaller. Branchiæ 8, small, bipinnate, the two posterior ones bifid, or indistinctly trifid,

set round the tubular anus in a circle interrupted in front as well as at the back; the produced margin of their cavity is covered with small tubercles and is crenulate. Oral tentacles in the form of small, conical, lateral tubercles. Foot small, oblong, transversely slit in front, and with the anterior lamina notched; gradually tapering and rounded behind.

Colour (in spirit) semitransparent yellowish white, with the tubercles opaque.

Length (in spirit) 32 millims., breadth 21, height 12.

Hab. Australian seas.

The mantle-spicules are small, straight, and cylindrical.

DORIS RARIPILOSA, sp. nov. (Plate XXIX. figs. 29, 30.)

General form elliptic-oblong, convex. Mantle ample, soft and membranous on the back, subcartilaginous on the sides, where it is thickened and a little expanded; the border is irregularly and sparingly crenulate; the upper surface bears small, scattered, linear, soft papillæ, which are tolerably numerous on the sides, but are fewer on the back and on the border; between the papillæ are small, short, conical tubercles, becoming rounded on the border, and giving to the latter a granular appearance; the inferior surface is smooth. Rhinophores short, broad, subclavate or conical, pointed, with the numerous small diagonal laminæ reaching far down and extending between slight anterior and posterior ridges; they are retractile into cavities with raised and denticulated margins. Branchiæ 6, short, wide, tripinnate, the main branches deeply divided. The anus is elongated, its base greatly enlarged and its orifice denticulated; the common cavity has the border prominent and indistinctly lobate. Head large; oral tentacles flat, semicrescentic in outline, and pointed forwards and inwards. Foot elongate, but not reaching to the posterior edge of the mantle, much narrower than the latter, truncated, transversely grooved, with the upper lamina widely notched in front, gradually acuminate to a rounded point behind.

Colour of the spirit specimens light dirty brown above, thickly mottled with brownish black on the sides and around the border; the branchiæ are light reddish brown; underneath, the general tint is reddish brown, with a dark minute speckling on the head, on the anterior portion of the mantle, and on the sides of the foot, and with large irregular black blotches, running into one another, on the sides of the body, between the foot and the mantle.

Length (in spirit) 64 millims., breadth 38, height 24.

Hab. —?

The mantle-spicules are small, spindle-shaped, and slightly bent or curved.

DORIS MOLLIPUSTULATA, sp. nov. (Plate XXX. figs. 13, 14.)

Body broadly ovate, gently convex, and very soft. Mantle large and pulpy, the border extended at the sides and gradually thinning to a subcrenulate edge; it is covered above with opaque, raised, unequal, soft, pustular surfaces, each of which bears one or more tuber-

cles. (Rhinophores retracted and not visible in the specimen.) Branchiæ 10, small, slender, simple, strap-shaped, pointed, the inner edge serrate; they surround the anal opening, and are completely retractile into a cavity with a contractile orifice. Mouth in the centre of a triangular raised surface, the side angles of which are produced but not free; on each side of the oral opening is a small indistinct tubercle. Foot not quite one third as broad as the mantle, truncated in front, with the margin thin and mesially notched, and rather produced laterally at the angles; it gradually narrows to a rounded point behind, and does not extend beyond the mantle-border.

Colour of the spirit specimen transparent white, with the pustules and the margins of the mantle and foot opaque white; the tubercles are yellowish; the branchiæ yellowish, lineated with white.

Length (in spirit) 12 millims., breadth 10, height 5.

Hab. —?

In a section of the mantle but one doubtful spicular-looking body was seen.

DORIS PECULIARIS, sp. nov. (Plate XXX. figs. 15–17.)

Body oblong, rounded at both ends, convex, soft. The mantle reaches down over the head and foot all round, but with not much of the border free; it is rather closely covered above with unequal, rotundate, soft, subrugose; flattish tubercles; and underneath it is marked with reticulating raised striæ. Rhinophores oblong, slender, broadest at the apex, rather compressed from before backwards, rounded at the base and marked with minute laminations; they appear to arise from the anterior base of a large, sessile, whitish opaque body, which occupies the floor of the rimmed wide cavity into which the rhinophore is retractile; they are placed well forward and rather close together. Branchiæ 5, wide, deeply divided, and indistinctly tripinnate; they are set in a circle interrupted on the left side; and between the two plumes which bound the hiatus is situated the soft tubular anus; between the latter and the roots of the neighbouring branchiæ extend ridges or laminæ; the whole system is retractile within a circular, rimmed cavity, situated far back. Mouth minute, in the middle of an indistinct, small, triangular, bilobed, raised surface, without tentacular appendages. Foot oblong, broad, nearly coextensive with the mantle, rounded in front and behind, the border flattened all round and notched in front.

General colour of the spirit specimen purplish grey, with the tubercles of a darker and more reddish tint.

Length (in spirit) 26 millims., breadth 13, height 9.

Hab. South Australia (Port Lincoln).

The mantle-spicules are short, mostly spindle-shaped and bent.

DORIS PRÆTENERA, sp. nov. (Plate XXX. figs. 10–12.)

Body elliptic, broad in the middle, more or less acuminate at the ends, rather convex, soft. Mantle smooth, fleshy, semigelatinous, the border fleshy and not much expanded. Rhinophores clavate, dia-

gonally laminated, and truncated at the apex, retractile, with soft protuberant sheaths situated very far forward and near together. Branchiæ 5, short, tripinnate, the two hinder plumes sometimes double; between the latter is situated the short, broad, tubular anus; the margin of the general cavity is a little raised and smooth. Oral tentacles flattish, grooved above, variable in size, in one specimen rather long and linear. Foot oblong, subtruncate, and without a groove in front, rounded and but little free behind.

Colour of the spirit specimens semitransparent creamy white; the rhinophores smoky, with whitish tips; the branchial pinnulæ blackish.

Length (in spirit) 38 millims., breadth 23, height 13.

Hab. New South Wales.

The mantle seems to be almost devoid of spicules; in one section one or two uncertain elongated bodies were seen.

The mouth opens vertically into a soft conical buccal chamber, which has the wall longitudinally plicated; projecting into the base of this is a large cartilaginous nodular protuberance with an opening in the middle. This probably serves as a kind of prehensile buccal collar; but it is not spiculose. The odontophore is of the typical *Doris* type, broad, the sides bent up and applied together, with about 16 transverse rows of numerous spines. The latter are well developed, long, pointed, and recurved, laterally compressed, with broad bases; none are central in position; but the lateral rows nearly meet in the middle line.

DORIS WELLINGTONENSIS, sp. nov. (Plate XXIX. figs. 27, 28.)

Body oval, convex, swollen. Mantle thick, fleshy, not extended or flattened at the border; covered with large, rounded, flat pustules, between which are scattered small, opaque, whitish tubercular spots. Rhinophores small, clavate, compressed from before backwards, each with more than 26 small laminæ, lying between shallow longitudinal depressions, and extending low down; the apices are styliform, and marked with laminæ, except at the extreme rounded tip; they are retractile through large, wide, fleshy sheaths. Branchiæ 7, ramose, tripinnate, moderate in size, surrounding the tubular anus, which is placed near, and opposite to, the interval between the last two plumes; the whole system is retractile within a large deep cavity, the margin of which is crenulate and wavy, and can be contracted completely over them. Oral tentacles short, thick, tubercular, truncated, and apparently with a central pit on the apex. Foot oblong, broad, fleshy, flatly rounded, and without an anterior groove; posteriorly it is obtusely acuminate.

Colour of the spirit specimen dirty white.

Length (in spirits) 42 millims., breadth 30, height 21.

Hab. New Zealand (Wellington).

The mantle-spicules seem to be absent.

DORIS? DELICATA, sp. nov. (Plate XXX. figs. 20-22.)

Body elliptic-oblong, truncated in front, obtusely and roundly